

Approximate Chi Square Value (.05)		68.73	Nonparametric Statistics	
Adjusted Level of Significance		0.0231	95% CLT UCL	43.54
Adjusted Chi Square Value		64.89	95% Jackknife UCL	44.52
			95% Standard Bootstrap UCL	43.07
Anderson-Darling Test Statistic		0.426	95% Bootstrap-t UCL	44.13
Anderson-Darling 5% Critical Value		0.722	95% Hall's Bootstrap UCL	42.14
Kolmogorov-Smirnov Test Statistic		0.197	95% Percentile Bootstrap UCL	43.13
Kolmogorov-Smirnov 5% Critical Value		0.28	95% BCA Bootstrap UCL	43.06
Data appear Gamma Distributed at 5% Significance Level			95% Chebyshev(Mean, Sd) UCL	55.91
			97.5% Chebyshev(Mean, Sd) UCL	64.51
Assuming Gamma Distribution			99% Chebyshev(Mean, Sd) UCL	81.4
95% Approximate Gamma UCL		46.96		
95% Adjusted Gamma UCL		49.74		
Potential UCL to Use			Use 95% Student's-t UCL	44.52

APPENDIX C

SOIL BACKGROUND CONCENTRATION TOLERANCE LIMIT CALCULATIONS

APPENDIX C

SOIL BACKGROUND CONCENTRATION TOLERANCE LIMIT CALCULATIONS

Tolerance limits were calculated for background metals analytes using the procedure described in Gibbons, 1994, and used for background Intracoastal Waterway sediments in Appendix B. A step-by-step discussion of these calculations is provided below.

Step 1 - Calculate the Background Mean and Standard Deviation

These parameters were calculated for each background metal using EPA's *PRO UCL* statistical software package (EPA, 2007). These parameters are summarized in Table C-1. The *PRO UCL* output pages are provided in Attachment C-1.

Step 2- Calculate Tolerance Limit

Since the purpose of the tolerance limit is to identify metals concentrations that are higher than background a one-sided upper tolerance limit was calculated.

As provided in Gibbons, the tolerance limit is calculated from:

$$TL = \text{mean} + K * (\text{std. deviation})$$

Where K is a factor determined from statistical tables based on the number of samples in the background data set and the desired confidence and coverage goals. Consistent with Gibbons, 1994, a 95% confidence level with 95% coverage was used. Based on a background data set of 10 samples and these goals, and using Table 4.2 of Gibbons (see Appendix B), K was set at 2.911 for all background data sets, except for barium and zinc. The resultant upper tolerance limits are listed in Table C-1.

In the case of barium, inspection of the background data set (see Table C-2) indicates one value (1,130 mg/kg) significantly higher than the other nine values (mean of 244 mg/kg), and likely indicative of anthropogenic sources. Although EPA, 2002 does provide for consideration of anthropogenic sources not related to the site of interest when making background comparisons, for conservative purposes and based on discussions with EPA regarding the background zinc data (see below), this anomalously high barium concentration was removed from the background data set prior to calculating the barium tolerance limit. The background barium mean and standard deviation based on the remaining nine background values are listed in Table C-1. These values along with a K factor based on nine samples were used to calculate the barium tolerance limit in Table C-1.

Similarly for zinc, two values in the background data set (Table C-3) are significantly higher than the other eight values, although none of the zinc values were identified as outliers by a statistical test (Dixon's outlier test) using *PRO UCL*. Notwithstanding these findings and per discussions with EPA regarding the spatial distribution of the zinc concentrations within the background area, the two highest zinc concentrations were removed from the background data set prior to calculating the zinc tolerance limit. The background zinc mean and standard deviation based on the remaining eight background values are listed in Table C-1. These values along with a K factor based on eight samples were used to calculate the zinc tolerance limit in Table C-1.

TABLE C-1 - BACKGROUND SAMPLE STATISTICS - SOIL

Compound	Number of Background Samples	Site-Specific Background Values (mg/kg)		
		Mean	Std. Dev.	Upper Tolerance Limit ⁽¹⁾
Arsenic	9	3.44	1.79	8.66
Barium ⁽²⁾	8	244	72	462
Chromium	9	15.2	3.0	24.0
Copper	9	12.1	4.0	23.6
Lead	9	13.4	1.5	17.9
Lithium	9	21.1	5.2	36.2
Manganese	9	377	94	650
Mercury	9	0.021	0.005	0.035
Molybdenum	9	0.52	0.07	0.74
Zinc ⁽³⁾	7	76.3	64.0	280

Note:

- (1) One-side upper tolerance limit for 95% confidence and 95% coverage.
- (2) Barium parameters calculated using data set with highest concentration removed.
- (3) Zinc parameters calculated using data set with two highest concentrations removed.

TABLE C-2 - BARIUM CONCENTRATIONS IN BACKGROUND SOIL SAMPLES

Sample Location	Concentration (mg/kg)
BSS-1	322
BSS-2	361
BSS-3	237
BSS-4	281
BSS-5	150
BSS-6	1130
BSS-7	281
BSS-8	215
BSS-9	177
BSS-10	177

TABLE C-3 - ZINC CONCENTRATIONS IN BACKGROUND SOIL SAMPLES

Sample Location	Concentration (mg/kg)
BSS-1	969
BSS-2	81.2
BSS-3	77
BSS-4	40.9
BSS-5	36.6
BSS-6	890J
BSS-7	227J
BSS-8	74J
BSS-9	37.1J
BSS-10	36.8J

Note:

Data qualifier: J = estimated value.

Attachment C-1

Background Soil Data
PRO UCL Output Pages

General UCL Statistics for Full Data Sets

User Selected Options
 From File J:\1352 - Gulfco R\risk\eco\Tables for Revisited SLERA\background soil table.wst
 Full Precision OFF
 Confidence Coefficient 95%
 Number of Bootstrap Operations 2000

Result or 1/2 SDL (antimony)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 10
Raw Statistics	Log-transformed Statistics	
Minimum	0.125	Minimum of Log Data -2.079
Maximum	2.19	Maximum of Log Data 0.784
Mean	0.953	Mean of log Data -0.711
Median	0.815	SD of log Data 1.345
SD	0.878	
Coefficient of Variation	0.921	
Skewness	0.157	
Relevant UCL Statistics		
Normal Distribution Test	Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.775	Shapiro Wilk Test Statistic 0.726
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	1.462	95% H-UCL 6.827
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL 3.117
95% Adjusted-CLT UCL	1.424	97.5% Chebyshev (MVUE) UCL 4.01
95% Modified-t UCL	1.464	99% Chebyshev (MVUE) UCL 5.765
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.685	Data do not follow a Discernable Distribution (0.05)
Theta Star	1.39	
nu star	13.71	
Approximate Chi Square Value (.05)	6.373	Nonparametric Statistics
Adjusted Level of Significance	0.0267	95% CLT UCL 1.41
Adjusted Chi Square Value	5.527	95% Jackknife UCL 1.462
		95% Standard Bootstrap UCL 1.381
Anderson-Darling Test Statistic	1.346	95% Bootstrap-t UCL 1.452
Anderson-Darling 5% Critical Value	0.752	95% Hall's Bootstrap UCL 1.306
Kolmogorov-Smirnov Test Statistic	0.329	95% Percentile Bootstrap UCL 1.394
Kolmogorov-Smirnov 5% Critical Value	0.275	95% BCA Bootstrap UCL 1.416
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 2.163
		97.5% Chebyshev(Mean, Sd) UCL 2.687
		99% Chebyshev(Mean, Sd) UCL 3.715
Assuming Gamma Distribution		
95% Approximate Gamma UCL	2.05	
95% Adjusted Gamma UCL	2.364	
Potential UCL to Use	Use 99% Chebyshev (Mean, Sd) UCL	3.715
Recommended UCL exceeds the maximum observation		

Result or 1/2 SDL (arsenic)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 10
Raw Statistics	Log-transformed Statistics	
Minimum	0.24	Minimum of Log Data -1.427
Maximum	5.9	Maximum of Log Data 1.775
Mean	3.438	Mean of log Data 0.985
Median	3.625	SD of log Data 0.947
SD	1.792	
Coefficient of Variation	0.521	
Skewness	-0.35	
Relevant UCL Statistics		
Normal Distribution Test	Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.946	Shapiro Wilk Test Statistic 0.749
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data appear Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	4.477	95% H-UCL 10.79
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL 9.349
95% Adjusted-CLT UCL	4.303	97.5% Chebyshev (MVUE) UCL 11.68
95% Modified-t UCL	4.466	99% Chebyshev (MVUE) UCL 16.27
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	1.572	Data appear Normal at 5% Significance Level
Theta Star	2.187	
nu star	31.44	

95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0189
95% Adjusted-CLT UCL	0.0328 97.5% Chebyshev (MVUE) UCL	0.0236
95% Modified-t UCL	0.0273 99% Chebyshev (MVUE) UCL	0.033
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.583 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.02	
nu star	11.66	
Approximate Chi Square Value (.05)	5.004 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.0245
Adjusted Chi Square Value	4.271 95% Jackknife UCL	0.026
	95% Standard Bootstrap UCL	0.0238
Anderson-Darling Test Statistic	2.903 95% Bootstrap-t UCL	0.543
Anderson-Darling 5% Critical Value	0.758 95% Hall's Bootstrap UCL	0.258
Kolmogorov-Smirnov Test Statistic	0.513 95% Percentile Bootstrap UCL	0.0272
Kolmogorov-Smirnov 5% Critical Value	0.276 95% BCA Bootstrap UCL	0.0351
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.0457
	97.5% Chebyshev(Mean, Sd) UCL	0.0605
Assuming Gamma Distribution	99% Chebyshev(Mean, Sd) UCL	0.0894
95% Approximate Gamma UCL	0.0271	
95% Adjusted Gamma UCL	0.0318	
Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	0.0457
Result or 1/2 SDL (benzo(a)pyrene)		
General Statistics		
Number of Valid Samples	10 Number of Unique Samples	7
Raw Statistics	Log-transformed Statistics	
Minimum	0.00434 Minimum of Log Data	-5.44
Maximum	0.076 Maximum of Log Data	-2.577
Mean	0.0122 Mean of log Data	-5.008
Median	0.005 SD of log Data	0.863
SD	0.0224	
Coefficient of Variation	1.833	
Skewness	3.157	
Relevant UCL Statistics		
Normal Distribution Test	Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.391 Shapiro Wilk Test Statistic	0.495
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.0252 95% H-UCL	0.0219
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0207
95% Adjusted-CLT UCL	0.0314 97.5% Chebyshev (MVUE) UCL	0.0257
95% Modified-t UCL	0.0264 99% Chebyshev (MVUE) UCL	0.0354
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.739 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0165	
nu star	14.78	
Approximate Chi Square Value (.05)	7.109 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.0239
Adjusted Chi Square Value	6.207 95% Jackknife UCL	0.0252
	95% Standard Bootstrap UCL	0.0233
Anderson-Darling Test Statistic	2.773 95% Bootstrap-t UCL	0.307
Anderson-Darling 5% Critical Value	0.75 95% Hall's Bootstrap UCL	0.171
Kolmogorov-Smirnov Test Statistic	0.505 95% Percentile Bootstrap UCL	0.0263
Kolmogorov-Smirnov 5% Critical Value	0.274 95% BCA Bootstrap UCL	0.0334
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.0431
	97.5% Chebyshev(Mean, Sd) UCL	0.0565
Assuming Gamma Distribution	99% Chebyshev(Mean, Sd) UCL	0.0828
95% Approximate Gamma UCL	0.0254	
95% Adjusted Gamma UCL	0.0291	
Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	0.0431
Result or 1/2 SDL (benzo(b)fluoranthene)		
General Statistics		
Number of Valid Samples	10 Number of Unique Samples	10
Raw Statistics	Log-transformed Statistics	
Minimum	0.00349 Minimum of Log Data	-5.658
Maximum	0.057 Maximum of Log Data	-2.865
Mean	0.00941 Mean of log Data	-5.234
Median	0.00411 SD of log Data	0.84
SD	0.0167	
Coefficient of Variation	1.777	
Skewness	3.157	

Relevant UCL Statistics		
Normal Distribution Test	Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.393 Shapiro Wilk Test Statistic	0.497
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.0191 95% H-UCL	0.0166
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.016
95% Adjusted-CLT UCL	0.0238 97.5% Chebyshev (MVUE) UCL	0.0198
95% Modified-t UCL	0.02 99% Chebyshev (MVUE) UCL	0.0272
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.777 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0121	
nu star	15.53	
Approximate Chi Square Value (.05)	7.632 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.0181
Adjusted Chi Square Value	6.692 95% Jackknife UCL	0.0191
	95% Standard Bootstrap UCL	0.0179
Anderson-Darling Test Statistic	2.757 95% Bootstrap-t UCL	0.231
Anderson-Darling 5% Critical Value	0.748 95% Hall's Bootstrap UCL	0.116
Kolmogorov-Smirnov Test Statistic	0.496 95% Percentile Bootstrap UCL	0.02
Kolmogorov-Smirnov 5% Critical Value	0.274 95% BCA Bootstrap UCL	0.0252
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.0325
	97.5% Chebyshev(Mean, Sd) UCL	0.0424
	99% Chebyshev(Mean, Sd) UCL	0.062
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.0192	
95% Adjusted Gamma UCL	0.0218	
Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	0.0325
Result or 1/2 SDL (benzo(g,h,i)perylene)		
General Statistics		
Number of Valid Samples	10 Number of Unique Samples	9
Raw Statistics	Log-transformed Statistics	
Minimum	0.015 Minimum of Log Data	-4.2
Maximum	0.083 Maximum of Log Data	-2.489
Mean	0.0241 Mean of log Data	-3.896
Median	0.0173 SD of log Data	0.508
SD	0.0208	
Coefficient of Variation	0.866	
Skewness	3.104	
Relevant UCL Statistics		
Normal Distribution Test	Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.458 Shapiro Wilk Test Statistic	0.581
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.0361 95% H-UCL	0.0337
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0391
95% Adjusted-CLT UCL	0.0418 97.5% Chebyshev (MVUE) UCL	0.0461
95% Modified-t UCL	0.0372 99% Chebyshev (MVUE) UCL	0.0599
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	2.254 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0107	
nu star	45.09	
Approximate Chi Square Value (.05)	30.68 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.0349
Adjusted Chi Square Value	28.63 95% Jackknife UCL	0.0361
	95% Standard Bootstrap UCL	0.034
Anderson-Darling Test Statistic	2.124 95% Bootstrap-t UCL	0.111
Anderson-Darling 5% Critical Value	0.732 95% Hall's Bootstrap UCL	0.0864
Kolmogorov-Smirnov Test Statistic	0.417 95% Percentile Bootstrap UCL	0.0365
Kolmogorov-Smirnov 5% Critical Value	0.268 95% BCA Bootstrap UCL	0.038
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.0527
	97.5% Chebyshev(Mean, Sd) UCL	0.0652
	99% Chebyshev(Mean, Sd) UCL	0.0895
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.0353	
95% Adjusted Gamma UCL	0.0379	
Potential UCL to Use	Use 95% Chebyshev (Mean, Sd) UCL	0.0527

Result or 1/2 SDL (benzo(k)fluoranthene)

General Statistics		
Number of Valid Samples	10 Number of Unique Samples	7
Raw Statistics	Log-transformed Statistics	

Minimum	0.00493	Minimum of Log Data	-5.313
Maximum	0.106	Maximum of Log Data	-2.244
Mean	0.0158	Mean of log Data	-4.861
Median	0.00575	SD of log Data	0.927
SD	0.0317		
Coefficient of Variation	2		
Skewness	3.16		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.386	Shapiro Wilk Test Statistic	0.483
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0342	95% H-UCL	0.0296
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0263
95% Adjusted-CLT UCL	0.043	97.5% Chebyshev (MVUE) UCL	0.0328
95% Modified-t UCL	0.0359	99% Chebyshev (MVUE) UCL	0.0455
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.644	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0246		
nu star	12.88		
Approximate Chi Square Value (.05)	5.815	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.0323
Adjusted Chi Square Value	5.014	95% Jackknife UCL	0.0342
		95% Standard Bootstrap UCL	0.0311
Anderson-Darling Test Statistic	2.864	95% Bootstrap-t UCL	0.608
Anderson-Darling 5% Critical Value	0.754	95% Hall's Bootstrap UCL	0.269
Kolmogorov-Smirnov Test Statistic	0.505	95% Percentile Bootstrap UCL	0.0358
Kolmogorov-Smirnov 5% Critical Value	0.275	95% BCA Bootstrap UCL	0.046
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0595
		97.5% Chebyshev(Mean, Sd) UCL	0.0784
		99% Chebyshev(Mean, Sd) UCL	0.116
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0351		
95% Adjusted Gamma UCL	0.0407		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0595
Result or 1/2 SDL (cadmium)			
General Statistics			
Number of Valid Samples	10	Number of Unique Samples	8
Raw Statistics		Log-transformed Statistics	
Minimum	0.0075	Minimum of Log Data	-4.893
Maximum	0.11	Maximum of Log Data	-2.207
Mean	0.0311	Mean of log Data	-4.091
Median	0.0095	SD of log Data	1.081
SD	0.0398		
Coefficient of Variation	1.283		
Skewness	1.571		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.641	Shapiro Wilk Test Statistic	0.713
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0541	95% H-UCL	0.0974
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.071
95% Adjusted-CLT UCL	0.0585	97.5% Chebyshev (MVUE) UCL	0.0898
95% Modified-t UCL	0.0552	99% Chebyshev (MVUE) UCL	0.127
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.725	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0428		
nu star	14.5		
Approximate Chi Square Value (.05)	6.912	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.0518
Adjusted Chi Square Value	6.025	95% Jackknife UCL	0.0541
		95% Standard Bootstrap UCL	0.0507
Anderson-Darling Test Statistic	1.584	95% Bootstrap-t UCL	0.105
Anderson-Darling 5% Critical Value	0.75	95% Hall's Bootstrap UCL	0.0699
Kolmogorov-Smirnov Test Statistic	0.411	95% Percentile Bootstrap UCL	0.0515
Kolmogorov-Smirnov 5% Critical Value	0.274	95% BCA Bootstrap UCL	0.0581
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.086
		97.5% Chebyshev(Mean, Sd) UCL	0.11
		99% Chebyshev(Mean, Sd) UCL	0.156
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0651		
95% Adjusted Gamma UCL	0.0747		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	0.156

Recommended UCL exceeds the maximum observation

Result or 1/2 SDL (carbazole)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 9
Raw Statistics		
Log-transformed Statistics		
Minimum	0.00376	Minimum of Log Data -5.583
Maximum	0.011	Maximum of Log Data -4.51
Mean	0.00512	Mean of log Data -5.328
Median	0.00443	SD of log Data 0.312
SD	0.00214	
Coefficient of Variation	0.418	
Skewness	2.781	
Relevant UCL Statistics		
Lognormal Distribution Test		
Shapiro Wilk Test Statistic	0.608	Shapiro Wilk Test Statistic 0.731
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level
Assuming Normal Distribution		
Assuming Lognormal Distribution		
95% Student's-t UCL	0.00636	95% H-UCL 0.00627
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL 0.00727
95% Adjusted-CLT UCL	0.00687	97.5% Chebyshev (MVUE) UCL 0.00822
95% Modified-t UCL	0.00646	99% Chebyshev (MVUE) UCL 0.0101
Gamma Distribution Test		
Data Distribution		
k star (bias corrected)	6.758	Data do not follow a Discernable Distribution (0.05)
Theta Star	7.57E-04	
nu star	135.2	
Approximate Chi Square Value (.05)	109.3	Nonparametric Statistics
Adjusted Level of Significance	0.0267	95% CLT UCL 0.00623
Adjusted Chi Square Value	105.3	95% Jackknife UCL 0.00636
		95% Standard Bootstrap UCL 0.0062
Anderson-Darling Test Statistic	1.249	95% Bootstrap-t UCL 0.00912
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL 0.0106
Kolmogorov-Smirnov Test Statistic	0.286	95% Percentile Bootstrap UCL 0.00636
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL 0.00679
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 0.00807
		97.5% Chebyshev(Mean, Sd) UCL 0.00934
		99% Chebyshev(Mean, Sd) UCL 0.0119
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.00633	
95% Adjusted Gamma UCL	0.00657	
Potential UCL to Use		
	Use 95% Student's-t UCL	0.00636
	or 95% Modified-t UCL	0.00646

Result or 1/2 SDL (chromium)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 9
Raw Statistics		
Log-transformed Statistics		
Minimum	10.7	Minimum of Log Data 2.37
Maximum	20.1	Maximum of Log Data 3.001
Mean	15.2	Mean of log Data 2.703
Median	14.15	SD of log Data 0.199
SD	3.02	
Coefficient of Variation	0.199	
Skewness	0.27	
Relevant UCL Statistics		
Lognormal Distribution Test		
Shapiro Wilk Test Statistic	0.936	Shapiro Wilk Test Statistic 0.945
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level
Assuming Normal Distribution		
Assuming Lognormal Distribution		
95% Student's-t UCL	16.95	95% H-UCL 17.26
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL 19.39
95% Adjusted-CLT UCL	16.86	97.5% Chebyshev (MVUE) UCL 21.21
95% Modified-t UCL	16.96	99% Chebyshev (MVUE) UCL 24.77
Gamma Distribution Test		
Data Distribution		
k star (bias corrected)	19.81	Data appear Normal at 5% Significance Level
Theta Star	0.767	
nu star	396.2	
Approximate Chi Square Value (.05)	351.1	Nonparametric Statistics
Adjusted Level of Significance	0.0267	95% CLT UCL 16.77
Adjusted Chi Square Value	343.7	95% Jackknife UCL 16.95
		95% Standard Bootstrap UCL 16.7
Anderson-Darling Test Statistic	0.388	95% Bootstrap-t UCL 17.01

Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	16.75
Kolmogorov-Smirnov Test Statistic	0.205	95% Percentile Bootstrap UCL	16.71
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	16.74
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	19.36
		97.5% Chebyshev(Mean, Sd) UCL	21.16
		99% Chebyshev(Mean, Sd) UCL	24.7
Assuming Gamma Distribution			
95% Approximate Gamma UCL	17.15		
95% Adjusted Gamma UCL	17.52		
Potential UCL to Use		Use 95% Student's-t UCL	16.95

Result or 1/2 SDL (chrysene)

General Statistics			
Number of Valid Samples	10	Number of Unique Samples	6
Raw Statistics		Log-transformed Statistics	
Minimum	0.006	Minimum of Log Data	-5.116
Maximum	0.083	Maximum of Log Data	-2.489
Mean	0.0145	Mean of log Data	-4.742
Median	0.00675	SD of log Data	0.8
SD	0.0241		
Coefficient of Variation	1.668		
Skewness	3.156		
Relevant UCL Statistics		Lognormal Distribution Test	
Normal Distribution Test		Shapiro Wilk Test Statistic	0.493
Shapiro Wilk Test Statistic	0.395	Shapiro Wilk Critical Value	0.842
Shapiro Wilk Critical Value	0.842	Data not Lognormal at 5% Significance Level	
Data not Normal at 5% Significance Level			
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0284	95% H-UCL	0.0247
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0247
95% Adjusted-CLT UCL	0.0351	97.5% Chebyshev (MVUE) UCL	0.0305
95% Modified-t UCL	0.0297	99% Chebyshev (MVUE) UCL	0.0417
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.856	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0169		
nu star	17.12		
Approximate Chi Square Value (.05)	8.758	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.027
Adjusted Chi Square Value	7.74	95% Jackknife UCL	0.0284
		95% Standard Bootstrap UCL	0.0264
Anderson-Darling Test Statistic	2.737	95% Bootstrap-t UCL	0.307
Anderson-Darling 5% Critical Value	0.746	95% Hall's Bootstrap UCL	0.154
Kolmogorov-Smirnov Test Statistic	0.496	95% Percentile Bootstrap UCL	0.0296
Kolmogorov-Smirnov 5% Critical Value	0.273	95% BCA Bootstrap UCL	0.0372
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0477
		97.5% Chebyshev(Mean, Sd) UCL	0.062
		99% Chebyshev(Mean, Sd) UCL	0.0903
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0282		
95% Adjusted Gamma UCL	0.032		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0477

Result or 1/2 SDL (copper)

General Statistics			
Number of Valid Samples	10	Number of Unique Samples	10
Raw Statistics		Log-transformed Statistics	
Minimum	7.68	Minimum of Log Data	2.039
Maximum	19.3	Maximum of Log Data	2.96
Mean	12.12	Mean of log Data	2.449
Median	10.8	SD of log Data	0.313
SD	3.955		
Coefficient of Variation	0.326		
Skewness	0.802		
Relevant UCL Statistics		Lognormal Distribution Test	
Normal Distribution Test		Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Critical Value	0.842
Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	14.41	95% H-UCL	14.96
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	17.35
95% Adjusted-CLT UCL	14.51	97.5% Chebyshev (MVUE) UCL	19.63
95% Modified-t UCL	14.46	99% Chebyshev (MVUE) UCL	24.1
Gamma Distribution Test		Data Distribution	

k star (bias corrected)	7.922	Data appear Normal at 5% Significance Level	
Theta Star	1.529		
nu star	158.4		
Approximate Chi Square Value (.05)	130.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	14.17
Adjusted Chi Square Value	125.9	95% Jackknife UCL	14.41
		95% Standard Bootstrap UCL	14.08
Anderson-Darling Test Statistic	0.317	95% Bootstrap-t UCL	15.03
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	14.63
Kolmogorov-Smirnov Test Statistic	0.175	95% Percentile Bootstrap UCL	14.04
Kolmogorov-Smirnov 5% Critical Value	0.267	95% BCA Bootstrap UCL	14.54
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	17.57
		97.5% Chebyshev(Mean, Sd) UCL	19.93
		99% Chebyshev(Mean, Sd) UCL	24.56
Assuming Gamma Distribution			
95% Approximate Gamma UCL	14.73		
95% Adjusted Gamma UCL	15.25		
Potential UCL to Use		Use 95% Student's-t UCL	14.41

Result or 1/2 SDL (fluoranthene)

General Statistics			
Number of Valid Samples	10	Number of Unique Samples	7
Raw Statistics		Log-transformed Statistics	
Minimum	0.00486	Minimum of Log Data	-5.328
Maximum	0.156	Maximum of Log Data	-1.858
Mean	0.0208	Mean of log Data	-4.834
Median	0.00575	SD of log Data	1.053
SD	0.0475		
Coefficient of Variation	2.286		
Skewness	3.161		
Relevant UCL Statistics		Lognormal Distribution Test	
Normal Distribution Test			
Shapiro Wilk Test Statistic	0.38	Shapiro Wilk Test Statistic	0.477
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	0.0483	95% H-UCL	0.0428
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	0.0324
95% Adjusted-CLT UCL	0.0615	97.5% Chebyshev (MVUE) UCL	0.0409
95% Modified-t UCL	0.0508	99% Chebyshev (MVUE) UCL	0.0575
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.513	Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0405		
nu star	10.26		
Approximate Chi Square Value (.05)	4.106	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.0455
Adjusted Chi Square Value	3.456	95% Jackknife UCL	0.0483
		95% Standard Bootstrap UCL	0.0443
Anderson-Darling Test Statistic	2.929	95% Bootstrap-t UCL	1.171
Anderson-Darling 5% Critical Value	0.766	95% Hall's Bootstrap UCL	0.527
Kolmogorov-Smirnov Test Statistic	0.515	95% Percentile Bootstrap UCL	0.0508
Kolmogorov-Smirnov 5% Critical Value	0.278	95% BCA Bootstrap UCL	0.0659
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0863
		97.5% Chebyshev(Mean, Sd) UCL	0.115
		99% Chebyshev(Mean, Sd) UCL	0.17
Assuming Gamma Distribution			
95% Approximate Gamma UCL	0.0519		
95% Adjusted Gamma UCL	0.0617		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	0.17
Recommended UCL exceeds the maximum observation			

Result or 1/2 SDL (indeno(1,2,3-cd)pyrene)

General Statistics			
Number of Valid Samples	10	Number of Unique Samples	9
Raw Statistics		Log-transformed Statistics	
Minimum	0.0125	Minimum of Log Data	-4.382
Maximum	0.417	Maximum of Log Data	-0.875
Mean	0.0551	Mean of log Data	-3.88
Median	0.0148	SD of log Data	1.063
SD	0.127		
Coefficient of Variation	2.308		
Skewness	3.161		
Relevant UCL Statistics		Lognormal Distribution Test	
Normal Distribution Test			
Shapiro Wilk Test Statistic	0.379	Shapiro Wilk Test Statistic	0.47
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842

Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.129 95% H-UCL	0.114
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0853
95% Adjusted-CLT UCL	0.164 97.5% Chebyshev (MVUE) UCL	0.108
95% Modified-t UCL	0.136 99% Chebyshev (MVUE) UCL	0.152
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.505 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.109	
nu star	10.09	
Approximate Chi Square Value (.05)	4 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.121
Adjusted Chi Square Value	3.36 95% Jackknife UCL	0.129
	95% Standard Bootstrap UCL	0.119
Anderson-Darling Test Statistic	2.966 95% Bootstrap-t UCL	3.62
Anderson-Darling 5% Critical Value	0.767 95% Hall's Bootstrap UCL	1.642
Kolmogorov-Smirnov Test Statistic	0.523 95% Percentile Bootstrap UCL	0.135
Kolmogorov-Smirnov 5% Critical Value	0.278 95% BCA Bootstrap UCL	0.175
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.23
	97.5% Chebyshev(Mean, Sd) UCL	0.306
Assuming Gamma Distribution	99% Chebyshev(Mean, Sd) UCL	0.455
95% Approximate Gamma UCL	0.139	
95% Adjusted Gamma UCL	0.166	
Potential UCL to Use	Use 99% Chebyshev (Mean, Sd) UCL	0.455
Recommended UCL exceeds the maximum observation		
Result or 1/2 SDL (lead)		
General Statistics		
Number of Valid Samples	10 Number of Unique Samples	9
Raw Statistics	Log-transformed Statistics	
Minimum	11 Minimum of Log Data	2.398
Maximum	15.2 Maximum of Log Data	2.721
Mean	13.43 Mean of log Data	2.591
Median	13.35 SD of log Data	0.118
SD	1.547	
Coefficient of Variation	0.115	
Skewness	-0.326	
Relevant UCL Statistics	Lognormal Distribution Test	
Normal Distribution Test		
Shapiro Wilk Test Statistic	0.913 Shapiro Wilk Test Statistic	0.909
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level	Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	14.33 95% H-UCL	14.43
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	15.62
95% Adjusted-CLT UCL	14.18 97.5% Chebyshev (MVUE) UCL	16.56
95% Modified-t UCL	14.32 99% Chebyshev (MVUE) UCL	18.42
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	57 Data appear Normal at 5% Significance Level	
Theta Star	0.236	
nu star	1140	
Approximate Chi Square Value (.05)	1063 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	14.23
Adjusted Chi Square Value	1050 95% Jackknife UCL	14.33
	95% Standard Bootstrap UCL	14.18
Anderson-Darling Test Statistic	0.379 95% Bootstrap-t UCL	14.21
Anderson-Darling 5% Critical Value	0.724 95% Hall's Bootstrap UCL	14.11
Kolmogorov-Smirnov Test Statistic	0.169 95% Percentile Bootstrap UCL	14.17
Kolmogorov-Smirnov 5% Critical Value	0.266 95% BCA Bootstrap UCL	14.15
Data appear Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	15.56
	97.5% Chebyshev(Mean, Sd) UCL	16.49
Assuming Gamma Distribution	99% Chebyshev(Mean, Sd) UCL	18.3
95% Approximate Gamma UCL	14.41	
95% Adjusted Gamma UCL	14.59	
Potential UCL to Use	Use 95% Student's-t UCL	14.33
Result or 1/2 SDL (lithium)		
General Statistics		
Number of Valid Samples	10 Number of Unique Samples	10
Raw Statistics	Log-transformed Statistics	
Minimum	14.4 Minimum of Log Data	2.667
Maximum	32.5 Maximum of Log Data	3.481
Mean	21.14 Mean of log Data	3.027

Median	19.9	SD of log Data	0.229
SD	5.166		
Coefficient of Variation	0.244		
Skewness	1.214		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.912	Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	24.13	95% H-UCL	24.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	27.82
95% Adjusted-CLT UCL	24.5	97.5% Chebyshev (MVUE) UCL	30.72
95% Modified-t UCL	24.24	99% Chebyshev (MVUE) UCL	36.42
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.43	Data appear Normal at 5% Significance Level	
Theta Star	1.465		
nu star	288.6		
Approximate Chi Square Value (.05)	250.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	23.83
Adjusted Chi Square Value	244.1	95% Jackknife UCL	24.13
		95% Standard Bootstrap UCL	23.71
Anderson-Darling Test Statistic	0.311	95% Bootstrap-t UCL	26.29
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	40.64
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL	23.88
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	24.4
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	28.26
		97.5% Chebyshev(Mean, Sd) UCL	31.34
		99% Chebyshev(Mean, Sd) UCL	37.39
Assuming Gamma Distribution			
95% Approximate Gamma UCL	24.38		
95% Adjusted Gamma UCL	25		
Potential UCL to Use		Use 95% Student's-t UCL	24.13
Result or 1/2 SDL (manganese)			
General Statistics			
Number of Valid Samples	10	Number of Unique Samples	9
Raw Statistics		Log-transformed Statistics	
Minimum	284	Minimum of Log Data	5.649
Maximum	551	Maximum of Log Data	6.312
Mean	377.4	Mean of log Data	5.909
Median	333	SD of log Data	0.227
SD	93.76		
Coefficient of Variation	0.248		
Skewness	1.28		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.796	Shapiro Wilk Test Statistic	0.843
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	431.8	95% H-UCL	436.5
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	495.4
95% Adjusted-CLT UCL	439	97.5% Chebyshev (MVUE) UCL	546.6
95% Modified-t UCL	433.8	99% Chebyshev (MVUE) UCL	647.4
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	14.38	Data appear Lognormal at 5% Significance Level	
Theta Star	26.25		
nu star	287.6		
Approximate Chi Square Value (.05)	249.3	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	426.2
Adjusted Chi Square Value	243.1	95% Jackknife UCL	431.8
		95% Standard Bootstrap UCL	422.7
Anderson-Darling Test Statistic	0.85	95% Bootstrap-t UCL	494.2
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL	681.2
Kolmogorov-Smirnov Test Statistic	0.284	95% Percentile Bootstrap UCL	425.6
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL	436.6
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	506.6
		97.5% Chebyshev(Mean, Sd) UCL	562.6
		99% Chebyshev(Mean, Sd) UCL	672.4
Assuming Gamma Distribution			
95% Approximate Gamma UCL	435.3		
95% Adjusted Gamma UCL	446.4		
Potential UCL to Use		Use 95% Student's-t UCL	431.8
		or 95% Modified-t UCL	433.8
		or 95% H-UCL	436.5

Result or 1/2 SDL (mercury)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 8
Raw Statistics		
Minimum	0.015	Log-transformed Statistics
Maximum	0.03	Minimum of Log Data -4.2
Mean	0.0213	Maximum of Log Data -3.507
Median	0.0195	Mean of log Data -3.871
SD	0.00479	SD of log Data 0.217
Coefficient of Variation	0.225	
Skewness	0.734	
Relevant UCL Statistics		
Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.908	Shapiro Wilk Test Statistic 0.937
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level
Assuming Normal Distribution		
95% Student's-t UCL	0.0241	Assuming Lognormal Distribution
95% UCLs (Adjusted for Skewness)		95% H-UCL 0.0245
95% Adjusted-CLT UCL	0.0242	95% Chebyshev (MVUE) UCL 0.0277
95% Modified-t UCL	0.0241	97.5% Chebyshev (MVUE) UCL 0.0305
		99% Chebyshev (MVUE) UCL 0.0359
Gamma Distribution Test		
k star (bias corrected)	16.3	Data Distribution
Theta Star	0.00131	Data appear Normal at 5% Significance Level
nu star	326.1	
Approximate Chi Square Value (.05)	285.2	Nonparametric Statistics
Adjusted Level of Significance	0.0267	95% CLT UCL 0.0238
Adjusted Chi Square Value	278.6	95% Jackknife UCL 0.0241
		95% Standard Bootstrap UCL 0.0236
Anderson-Darling Test Statistic	0.458	95% Bootstrap-t UCL 0.0246
Anderson-Darling 5% Critical Value	0.725	95% Hall's Bootstrap UCL 0.024
Kolmogorov-Smirnov Test Statistic	0.2	95% Percentile Bootstrap UCL 0.0238
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL 0.0239
Data appear Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL 0.0279
		97.5% Chebyshev(Mean, Sd) UCL 0.0308
		99% Chebyshev(Mean, Sd) UCL 0.0364
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.0243	
95% Adjusted Gamma UCL	0.0249	
Potential UCL to Use		Use 95% Student's-t UCL 0.0241

Result or 1/2 SDL (molybdenum)

General Statistics		
Number of Valid Samples	10	Number of Unique Samples 10
Raw Statistics		
Minimum	0.42	Log-transformed Statistics
Maximum	0.68	Minimum of Log Data -0.868
Mean	0.522	Maximum of Log Data -0.386
Median	0.505	Mean of log Data -0.659
SD	0.0739	SD of log Data 0.137
Coefficient of Variation	0.142	
Skewness	0.94	
Relevant UCL Statistics		
Normal Distribution Test		Lognormal Distribution Test
Shapiro Wilk Test Statistic	0.947	Shapiro Wilk Test Statistic 0.974
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value 0.842
Data appear Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level
Assuming Normal Distribution		
95% Student's-t UCL	0.565	Assuming Lognormal Distribution
95% UCLs (Adjusted for Skewness)		95% H-UCL 0.568
95% Adjusted-CLT UCL	0.568	95% Chebyshev (MVUE) UCL 0.621
95% Modified-t UCL	0.566	97.5% Chebyshev (MVUE) UCL 0.663
		99% Chebyshev (MVUE) UCL 0.747
Gamma Distribution Test		
k star (bias corrected)	40.85	Data Distribution
Theta Star	0.0128	Data appear Normal at 5% Significance Level
nu star	817	
Approximate Chi Square Value (.05)	751.7	Nonparametric Statistics
Adjusted Level of Significance	0.0267	95% CLT UCL 0.56
Adjusted Chi Square Value	740.8	95% Jackknife UCL 0.565
		95% Standard Bootstrap UCL 0.56
Anderson-Darling Test Statistic	0.217	95% Bootstrap-t UCL 0.579
Anderson-Darling 5% Critical Value	0.724	95% Hall's Bootstrap UCL 0.59
Kolmogorov-Smirnov Test Statistic	0.153	95% Percentile Bootstrap UCL 0.558
Kolmogorov-Smirnov 5% Critical Value	0.266	95% BCA Bootstrap UCL 0.561

Data appear Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.624
	97.5% Chebyshev(Mean, Sd) UCL	0.668
	99% Chebyshev(Mean, Sd) UCL	0.755
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.567	
95% Adjusted Gamma UCL	0.576	
Potential UCL to Use	Use 95% Student's-t UCL	0.565

Result or 1/2 SDL (phenanthrene)

General Statistics	10 Number of Unique Samples	10
Number of Valid Samples		
Raw Statistics	Log-transformed Statistics	
Minimum	0.00286 Minimum of Log Data	-5.859
Maximum	0.137 Maximum of Log Data	-1.988
Mean	0.0167 Mean of log Data	-5.327
Median	0.00336 SD of log Data	1.179
SD	0.0423	
Coefficient of Variation	2.525	
Skewness	3.162	
Relevant UCL Statistics	Lognormal Distribution Test	
Normal Distribution Test		
Shapiro Wilk Test Statistic	0.375 Shapiro Wilk Test Statistic	0.459
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.0412 95% H-UCL	0.0383
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0239
95% Adjusted-CLT UCL	0.053 97.5% Chebyshev (MVUE) UCL	0.0304
95% Modified-t UCL	0.0435 99% Chebyshev (MVUE) UCL	0.0432
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.425 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0394	
nu star	8.497	
Approximate Chi Square Value (.05)	3.026 Nonparametric Statistics	
Adjusted Level of Significance	0.0267 95% CLT UCL	0.0387
Adjusted Chi Square Value	2.487 95% Jackknife UCL	0.0412
	95% Standard Bootstrap UCL	0.0378
Anderson-Darling Test Statistic	3.041 95% Bootstrap-t UCL	1.724
Anderson-Darling 5% Critical Value	0.776 95% Hall's Bootstrap UCL	0.748
Kolmogorov-Smirnov Test Statistic	0.53 95% Percentile Bootstrap UCL	0.0434
Kolmogorov-Smirnov 5% Critical Value	0.281 95% BCA Bootstrap UCL	0.0568
Data not Gamma Distributed at 5% Significance Level	95% Chebyshev(Mean, Sd) UCL	0.075
	97.5% Chebyshev(Mean, Sd) UCL	0.1
	99% Chebyshev(Mean, Sd) UCL	0.15
Assuming Gamma Distribution		
95% Approximate Gamma UCL	0.047	
95% Adjusted Gamma UCL	0.0572	
Potential UCL to Use	Use 99% Chebyshev (Mean, Sd) UCL	0.15
Recommended UCL exceeds the maximum observation		

Result or 1/2 SDL (pyrene)

General Statistics	10 Number of Unique Samples	7
Number of Valid Samples		
Raw Statistics	Log-transformed Statistics	
Minimum	0.0085 Minimum of Log Data	-4.768
Maximum	0.127 Maximum of Log Data	-2.064
Mean	0.0218 Mean of log Data	-4.347
Median	0.01 SD of log Data	0.811
SD	0.037	
Coefficient of Variation	1.696	
Skewness	3.156	
Relevant UCL Statistics	Lognormal Distribution Test	
Normal Distribution Test		
Shapiro Wilk Test Statistic	0.396 Shapiro Wilk Test Statistic	0.501
Shapiro Wilk Critical Value	0.842 Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level	Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution	Assuming Lognormal Distribution	
95% Student's-t UCL	0.0432 95% H-UCL	0.0376
95% UCLs (Adjusted for Skewness)	95% Chebyshev (MVUE) UCL	0.0373
95% Adjusted-CLT UCL	0.0535 97.5% Chebyshev (MVUE) UCL	0.046
95% Modified-t UCL	0.0452 99% Chebyshev (MVUE) UCL	0.063
Gamma Distribution Test	Data Distribution	
k star (bias corrected)	0.834 Data do not follow a Discernable Distribution (0.05)	
Theta Star	0.0262	

nu star	16.67		
Approximate Chi Square Value (.05)	8.437	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	0.041
Adjusted Chi Square Value	7.441	95% Jackknife UCL	0.0432
		95% Standard Bootstrap UCL	0.0404
Anderson-Darling Test Statistic	2.722	95% Bootstrap-t UCL	0.464
Anderson-Darling 5% Critical Value	0.747	95% Hall's Bootstrap UCL	0.239
Kolmogorov-Smirnov Test Statistic	0.493	95% Percentile Bootstrap UCL	0.0452
Kolmogorov-Smirnov 5% Critical Value	0.273	95% BCA Bootstrap UCL	0.0564
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	0.0728
		97.5% Chebyshev(Mean, Sd) UCL	0.0948
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	0.138
95% Approximate Gamma UCL	0.0431		
95% Adjusted Gamma UCL	0.0488		
Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	0.0728
Result or 1/2 SDL (zinc)			
General Statistics			
Number of Valid Samples	10	Number of Unique Samples	10
Raw Statistics		Log-transformed Statistics	
Minimum	36.6	Minimum of Log Data	3.6
Maximum	969	Maximum of Log Data	6.876
Mean	247	Mean of log Data	4.667
Median	75.5	SD of log Data	1.272
SD	364.6		
Coefficient of Variation	1.476		
Skewness	1.694		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.62	Shapiro Wilk Test Statistic	0.795
Shapiro Wilk Critical Value	0.842	Shapiro Wilk Critical Value	0.842
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	458.3	95% H-UCL	1141
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	602.7
95% Adjusted-CLT UCL	502.6	97.5% Chebyshev (MVUE) UCL	772.1
95% Modified-t UCL	468.6	99% Chebyshev (MVUE) UCL	1105
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.567	Data do not follow a Discernable Distribution (0.05)	
Theta Star	435.3		
nu star	11.35		
Approximate Chi Square Value (.05)	4.8	Nonparametric Statistics	
Adjusted Level of Significance	0.0267	95% CLT UCL	436.6
Adjusted Chi Square Value	4.085	95% Jackknife UCL	458.3
		95% Standard Bootstrap UCL	426.1
Anderson-Darling Test Statistic	1.247	95% Bootstrap-t UCL	1346
Anderson-Darling 5% Critical Value	0.76	95% Hall's Bootstrap UCL	1691
Kolmogorov-Smirnov Test Statistic	0.346	95% Percentile Bootstrap UCL	430.3
Kolmogorov-Smirnov 5% Critical Value	0.277	95% BCA Bootstrap UCL	496.4
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	749.5
		97.5% Chebyshev(Mean, Sd) UCL	967
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1394
95% Approximate Gamma UCL	583.8		
95% Adjusted Gamma UCL	685.9		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	1394
Recommended UCL exceeds the maximum observation			

APPENDIX D
SOIL BORING LOGS

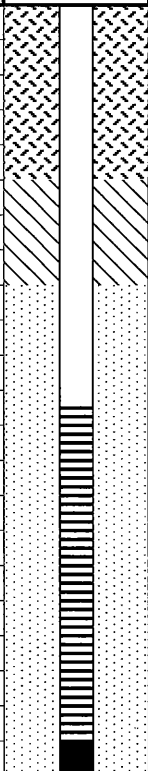
PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: ND3MW02

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/17/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554692.51
Drilling Method:	Hollow Stem Auger	Easting:	3154679.33
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	3.7
		TOC Elev. (ft MSL)	6.41

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.5/0.5	0.5/0.5	CL	(0.0 to 0.5) Sandy CLAY, brown, moist, ~ 30% to 40% fine-grained sand, ~ 60% to 70% medium plasticity clay, firm.
		16.4	1.5/1.5		(0.5 to 2.0) Sandy CLAY as above, trace black mottling at 2.2, decrease in sand content below 2.0.
		14	5/5		
5		9.5	5/5	CL/SP	(2.0 to 7.5) Sandy CLAY as above with local fractures, wet.
		6.8	5/5		
		0.7	5/5		(7.5 to 11.5) Sandy CLAY, brown, wet, ~ 20% to 50% fine-grained sand, ~ 50% to 80% high plasticity clay.
10		5.4	5/5	SC/SM	(11.5 to 14.6) Clayey silty SAND, brown, wet, ~ 30% to 50% medium plasticity fines, ~ 50% to 70% very fine to fine-grained sand, very soft.
		7.4	5/5		
		6.1	5/5		
15		9.9	5/5	SP	(14.6 to 21.1) Poorly graded SAND, brown, wet, visible NAPL at 21.0 to 21.1 on top of clay, very fine to fine-grained sand, silt locally, soft, running sand.
		315	5/5		
		1755	1.5/1.5		(21.1 to 21.5) Sandy CLAY, brown, moist, ~ 10% fine-grained sand, ~ 90% high plasticity clay, firm, borehole drilled to 22.0 for well construction.
20				CH	
25					
30					

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0 to 11.5) Casing, 2" sch. 40 PVC
(11.5 to 21.5) Screen, 2" sch. 40 PVC, 0.01 slot
(21.5 to 22.0) End Cap

Annular Materials

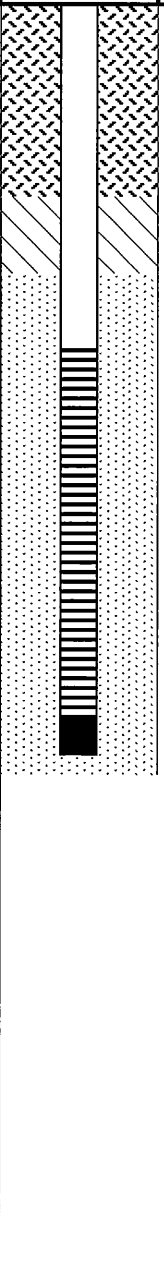
(0.0 to 5.0) Portland Cement with ~ 5% bentonite gel
(5.0 to 8.0) Bentonite chips, 3/8"
(8.0 to 22.0) Sand, 20/40 silica


This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NE3MW05			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 07/21/06		Borehole Diameter (in.): 8.25	
				Drilling Company: Best Drilling Services, Inc.		Total Depth (ft): 22	
PBW Project No. 1352				Field Supervisor: Tim Jennings, P.G.		Northing: 13554868.05	
				Drilling Method: Hollow Stem Auger		Easting: 3154789.25	
				Sampling Method: 5 ft continuous core		Ground Elev. (ft. MSL): 3.3	
						TOC Elev. (ft MSL) 6.53	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		0	4/5	SP/CL	(0.0 to 0.6) SAND and CLAY, brown, moist, ~ 50% medium plasticity clay, 50% medium-grained sand.		
		0		CL	(0.6 to 2.3) Sandy CLAY, brown, wet, ~ 30% fine to coarse-grained sand, ~ 70% medium plasticity clays, very soft.		
5		0.4	1/5	SM	(2.3 to 3.7) Silty sandy CLAY, gray to black, moist, ~ 10% to 20% silt and fine-grained sand, ~ 80% to 90% medium plasticity clay, firm.		
					(3.7 to 10.0) Silty SAND, brown, wet, ~ 30% to 40% fines, ~ 60% to 70% very fine to fine-grained sand, soft, black sludge-like material from groundwater in reducing environment, debris blocking core barrel causing poor recovery, large anchor rope around augers when pulled—likely reason for poor recovery.		
10		0	3/5	SM/SC	(10.0 to 15.0) Silty clayey SAND, brown, wet, ~ 40% to 50% medium to high plasticity fines, ~ 50% to 60% very fine to fine-grained sand.		
		0					
15		0	3/5	SC/CL	(15.0 to 16.5) Silty clayey SAND as above with thin interbedded CLAY locally, due to poor recovery very little clay observed, first "confining" clay interpreted at ~ 15.5 to 16.5 with the "lower sand" below ~ 16.5.		
				SP	(16.5 to 20.0) Poorly graded SAND with CLAY, brown, wet, very fine to fine-grained sand, very "soupy."		
20			2/2		(20.0 to 22.0) Poorly graded SAND, brown, wet, very fine to medium-grained sand.		
		0			Notes: 1. Hydrocarbon-like sheen on water in borehole, but no visible chemical or hydrocarbon observed in core at any depth.		
25							
30							
<div>PBW</div> <div>Pastor, Behling & Wheeler, LLC</div> <div>2201 Double Creek Dr., Suite 4004</div> <div>Round Rock, TX 78664</div> <div>Tel (512) 671-3434 Fax (512) 671-3446</div>				Well Materials		Annular Materials	
				(0.0 to 5.5) Casing, 2" sch. 40 PVC (5.5 to 15.5) Screen, 2" sch. 40 PVC, 0.01 slot (15.5 to 16.0) End Cap		(0.0 to 2.0) Portland Cement with ~ 5% bentonite gel (2.0 to 4.0) Bentonite chips, 3/8" (4.0 to 16.0) Sand, 20/40 silica (16.0 to 22.0) Bentonite chips, 3/8"	
This boring log should not be used separately from the original report.							

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NF2MW06				
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 07/31/06		Borehole Diameter (in.): 8.25		
				Drilling Company: Best Drilling Services, Inc.		Total Depth (ft): 20		
PBW Project No. 1352				Field Supervisor: Tim Jennings, P.G.		Northing: 13555117.77		
				Drilling Method: Hollow Stem Auger		Easting: 3154650.46		
				Sampling Method: 5 ft continuous core		Ground Elev. (ft. MSL): 2.2		
						TOC Elev. (ft. MSL) 5.35		
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0		3.4	4/4	CL	(0.0 to 0.7) Sandy CLAY, brown, moist, ~ 20% fine-grained sand, ~ 80% medium plasticity clay, firm, abundant roots.			
		3.5			(0.7 to 5.2) Silty CLAY, gray to brown, moist, medium plasticity, firm.			
5		3.1	4/4	CL/SM/SC	(5.2 to 9.8) Silty sandy CLAY and clayey silty SAND, gray to brown, wet, ~ 40% to 50% very fine-grained sand, ~ 50% to 60% medium plasticity clay and silt, soft to slightly firm.			
		2.8						
10		2.8	4/4	SP/SM	(9.8 to 13.9) Poorly graded SAND and silty SAND, brown, wet, ~ 20% to 30% low plasticity fines, ~ 70% to 80% very fine to fine-grained sand.			
		4.1						
		4.7	4/4	CH	(13.9 to 14.5) Silty CLAY, brown, moist to wet, high plasticity fines, very soft.			
15		5.6			(14.5 to 16.3) Silty SAND and poorly graded SAND, brown, gray below 15.6, very fine to fine-grained sand with ~ 10% to 20% silt above 15.6, moderate chemical odor where gray.			
		6.1	4/4	SP	(16.3 to 17.9) Sandy CLAY, reddish-brown, moist (wet on thin sand interbeds), ~ 80% to 90% high plasticity clay, soft, firm at 17.2 to 17.9			
		6.3			(17.9 to 20.0) Poorly graded sand, brown, wet, very fine to fine-grained sand, soft.			
20								
25								
30								
<div>PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</div>				<u>Well Materials</u> (0.0 to 6.0) Casing, 2" sch. 40 PVC (6.0 to 16.0) Screen, 2" sch. 40 PVC, 0.01 slot (16.0 to 16.5) End Cap		<u>Annular Materials</u> (0.0 to 3.0) Portland Cement with ~ 5% bentonite gel (3.0 to 5.0) Bentonite chips, 3/8" (5.0 to 16.5.0) Sand, 20/40 silica		
This boring log should not be used separately from the original report.								

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: SF5MW10	
Gulfco Marine Maintenance Superfund Site Freeport, TX		Completion Date:	07/20/06
		Borehole Diameter (in.):	8.25
PBW Project No. 1352		Drilling Company:	Best Drilling Services, Inc.
		Total Depth (ft):	20
		Field Supervisor:	Tim Jennings, P.G.
		Northing:	13554284.4
		Drilling Method:	Hollow Stem Auger
		Easting:	3155154.1
		Sampling Method:	5 ft continuous core
		Ground Elev. (ft. MSL):	5
		TOC Elev. (ft MSL)	8.01

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		1.5	4/5	SM/SC	(0.0 to 1.3) Silty clayey SAND, brown, moist, ~ 50% low plasticity fines, ~ 50% fine-grained sand, firm, abundant roots.
		2.4		CL	(1.3 to 2.5) Silty CLAY, brown to gray, moist, low plasticity fines, stiff.
				SM	(2.5 to 5.0) Silty SAND, brown to black, moist, ~ 40% low plasticity fines, ~ 60% fine-grained sand, black staining has slight hydrocarbon odor.
5		1.5	5/5	CL	(5.0 to 8.6) Silty sandy CLAY, reddish brown, moist, ~ 10% to 20% fine-grained sand and silt, ~ 80% to 90% medium plasticity clay, firm, stiff.
		1.7			
		1.7		SM/SC	(8.6 to 10.5) Silty clayey SAND, brown, moist, ~ 50% high plasticity fines, ~ 50% very fine-grained sand, very soft.
10		1.7	5/5		
		1.5		SM/MH/CL	(10.5 to 15.0) Interbedded silty SAND, sandy SILT, and silty clayey SAND, brown, wet, ~40% to 60% high plasticity fines as interbeds, ~ 40 to 60% very fine-grained sand, soft.
		1.4			
15		1.4	5/5	SM	(15.0 to 18.2) Silty SAND, brown, wet, ~ 40% medium plasticity silt, ~60% very fine to fine-grained sand, soft.
		1.4			
		1.5		CH	(18.2 to 20.0) Silty CLAY, grayish-brown, moist, high plasticity fines, soft, first confining clay.
20					
25					
30					

 Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Well Materials (0.0 to 9.0) Casing, 2" sch. 40 PVC (9.0 to 19.0) Screen, 2" sch. 40 PVC, 0.01 slot (19.0 to 19.5) End Cap	Annular Materials (0.0 to 5.0) Portland Cement with ~ 5% bentonite gel (5.0 to 7.0) Bentonite chips, 3/8" (7.0 to 20.0) Sand, 20/40 silica
	This boring log should not be used separately from the original report.	

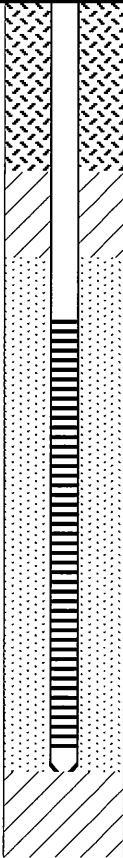
<div style="text-align: center;"> <h1>PBW</h1> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p> </div>	<u>Well Materials</u> (0.0 to 6.0) Casing, 2" sch. 40 PVC (6.0 to 16.0) Screen, 2" sch. 40 PVC, 0.01 slot (16.0 to 16.5) End Cap	<u>Annular Materials</u> (0.0 to 3.0) Portland Cement with ~ 5% bentonite gel (3.0 to 5.0) Bentonite chips, 3/8" (5.0 to 17.0) Sand, 20/40 silica (17.0 to 20.0) Bentonite chips, 3/8"
	This boring log should not be used separately from the original report.	

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: SJ1MW15			
Gulfco Marine Maintenance Superfund Site Freeport, TX		Completion Date:	07/19/06	Borehole Diameter (in.):	8.25
		Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	25
		Field Supervisor:	Tim Jennings, P.G.	Northing:	13554764.11
		Drilling Method:	Hollow Stem Auger	Easting:	3155165.2
PBW Project No. 1352		Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	2.5
				TOC Elev. (ft MSL)	5.61

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		3.4			(0.0 to 1.0) Sandy CLAY, brown, moist, ~ 40% fine to medium-grained sand, ~ 60% low plasticity clay, soft.
		3.9	3/5	CL	
5		5.9			(1.0 to 7.5) Sandy CLAY, reddish-brown to gray, moist, ~ 10% fine-grained sand and silt, ~ 90% medium plasticity clay.
		7.3			
		6.9	4/5		
10		5.9			
		5.5	4.5/5	SP/SM	(7.5 to 20.0) Silty Clayey SAND, brown, moist to wet below 10.0, ~ 20% to 40% high plasticity fines as interbeds, ~ 60% to 80% very fine to fine-grained sand with poorly graded sand interbeds at 11.5 to 12.5 and 13.2 to 15.0, soft.
15		7.3			
		8.4	5/5		
		7.5			
20		5.9			
		9.2	5/5	CH	(20.0 to 23.7) Silty CLAY, gray, moist, high plasticity, firm, first confining clay.
		10.8		SP	(23.7 to 25.0) Poorly graded SAND, brown, wet, very fine to fine-grained sand, soft, borehole allowed to slough in to 24.0 for well construction.
25					
30					

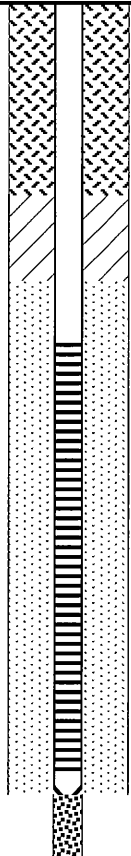
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Well Materials (0.0 to 10.0) Casing, 2" sch. 40 PVC (10.0 to 20.0) Screen, 2" sch. 40 PVC, 0.01 slot (20.5 to 20.5) End Cap	Annular Materials (0.0 to 5.5) Portland Cement with ~ 5% bentonite gel (5.5 to 7.5) Bentonite chips, 3/8" (7.5 to 21.0) Sand, 20/40 silica (21.0 to 24.0) Bentonite chips, 3/8"
	This boring log should not be used separately from the original report.	

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NB4MW18				
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/30/07		Borehole Diameter (in.): 8.25		
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 19		
PBW Project No. 1352				Field Supervisor: Len Mason, PG		Northing: 13554255.42		
				Drilling Method: Hollow Stem Auger		Easting: 3154474.18		
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 2.5		
						TOC Elev. (ft MSL) 4.96		
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0		0.0	4/5	SC/SM	(0.0 to 0.4) Clayey silty SAND, brown, slightly moist, very fine-grained quartz, crumbly, some vegetation throughout.			
2		0.4		CH	(0.4 to 12.2) CLAY, brown, dark brown, and some blackish-brown, moist, high plasticity, slightly firm, root fibers in top 2 feet, at 2.5 feet becoming gray and brown/strong brown, mottled, moisture content increasing, 5 feet to 6.9 feet has some areas of saturation, mostly reddish-brown with some gray mottling at 6.9 feet, becomes gray at 8.9 feet.			
4		0.2						
6		0.3						
8		0.2						
10		0.4	5/5		(12.2 to 17.9) Slightly sandy clayey SILT, mostly gray with some reddish-brown, saturated, ~20% clay, ~ 5-10% very fine-grained sand, soft, thin shell fragment layer at 12.3 feet.			
12		0.5						
14		0.5	2/2	ML	(17.9 to 20.0) Silty CLAY, gray with some olive-gray, slightly mottled, slightly moist, high plasticity, firm.			
16		0.5						
18			2/2	CH				
20								
22								
24								
26								
28								
30								
<div>PBW</div> <div>Pastor, Behling & Wheeler, LLC</div> <div>2201 Double Creek Dr., Suite 4004</div> <div>Round Rock, TX 78664</div> <div>Tel (512) 671-3434 Fax (512) 671-3446</div>				<u>Well Materials</u> <div>(0.0 to 7.5) Casing, 2" sch. 40 PVC</div> <div>(7.5 to 17.5) Screen, 2" sch. 40 PVC, 0.01 slot</div> <div>(17.5 to 18.0) End Cap</div>		<u>Annular Materials</u> <div>(0.0 to 4.0) Portland Cement with 5% bentonite gel</div> <div>(4.0 to 6.0) Bentonite chips, 3/8"</div> <div>(6.0 to 18.0) Sand, 20/40 silica</div> <div>(18.0 to 20.0) Coated bentonite pellets</div>		
This boring log should not be used separately from the original report.								

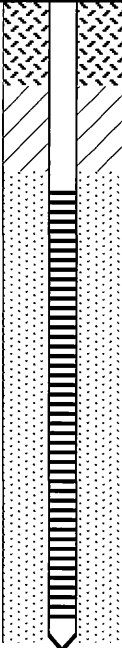
<div style="text-align: center;"> <h1>PBW</h1> <p>Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446</p> </div>	<u>Well Materials</u> (0.0 to 4.0) Casing, 2" sch. 40 PVC (4.0 to 13.5) Screen, 2" sch. 40 PVC, 0.01 slot (13.5 to 14.0) End Cap	<u>Annular Materials</u> (0.0-1.0) Potland Cement with 5% bentonite gel (1.0-3.0) Bentonite chips, 3/8" (3.0-14.0) Sand, 20/40 silica (14.0-15.0) Coated bentonite pellets
	2" borehole caved in from 15-17'	
This boring log should not be used separately from the original report.		

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: OMW21			
Gulfco Marine Maintenance Superfund Site Freeport, TX		Completion Date:	05/21/07	Borehole Diameter (in.):	8.25
		Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	20
PBW Project No. 1352		Field Supervisor:	Tim Jennings, PG	Northing:	13555272.78
		Drilling Method:	Hollow Stem Auger	Easting:	3154248.25
		Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	2.4
				TOC Elev. (ft MSL)	5.73

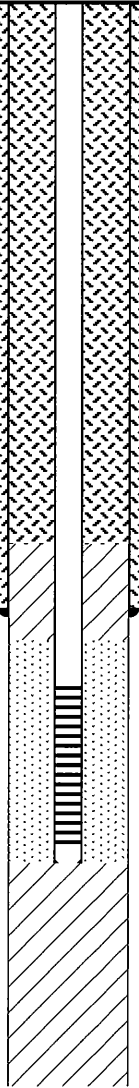
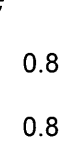
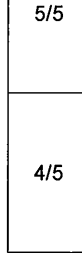
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.0		CL	(0.0 to 1.4) Sandy CLAY, dark brown, moist, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clays.
2		0.0	5/5		
4		0.0			
6		0.0		CL	(1.4 to 10.0) Silty CLAY, reddish-brown, moist, medium plasticity, firm to soft, reddish-brown with gray mottling below 4 feet, becomes gray with reddish-brown mottling below 5.7 feet, wet below 8.2 feet.
8		0.0	4/5		
10		0.0			
12		0.0			
14		0.0	1/5	CL	(10.0 to 18.8) Sandy, silty, CLAY, gray, wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, a few shell fragments, very soft. Shell fragments and sand content increasing by 15 feet, light gray, ~ 10-20% shell fragments, ~ 30-40% fine to medium-grained sand, ~ 50-60% medium plasticity clay. Sand content decreasing at 17.5 feet, grayish brown, ~ 5% oyster fragments, ~ 10% very fine-grained sand, ~ 85% medium plasticity clay, firm, base of saturation between 16.3 and 17.5 feet.
16		0.1	1.25/2.5		
18			2.5/2.5	CL	(18.8 to 20.0) Silty CLAY, gray, moist, ~ 40-50% silt, ~ 50-60% low plasticity clay, firm.
20					
22					
24					
26					
28					
30					

PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Well Materials (0.0 to 8.0) Casing, 2" sch. 40 PVC (8.0 to 18) Screen, 2" sch. 40 PVC, 0.01 slot (18 to 18.5) End Cap	Annular Materials (0.0 to 4.5) Portland Cement with 5% bentonite gel (4.5 to 6.5) Bentonite chips, 3/8" (6.5 to 18.5) Sand, 20/40 silica
	2" borehole caved in from 18.5-20"	
	This boring log should not be used separately from the original report.	

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: SA4MW22			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/30/07		Borehole Diameter (in.): 8.25	
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 15	
PBW Project No. 1352				Field Supervisor: Len Mason, PG		Northing: 13553934.09	
				Drilling Method: Hollow Stem Auger		Easting: 3154726.12	
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 5.5	
						TOC Elev. (ft MSL) 7.79	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		0.4	4.9/5	SC-SW	(0.0-3.1) Silty clayey SAND, reddish-brown, dry, ~ 5-10% low plasticity clay, mostly fine-grained sand with some medium-grained, some root material, subrounded, loose, clay content increasing at 2.2 feet to ~ 20-30%, some gravel and shell fragments, becoming slightly moist, decayed plant material at 3.0 to 3.1 feet.		
2				SM	(3.1 to 4.4) Clayey silty SAND, grayish-brown, slightly moist, ~ 10% clay, ~ 30% silt, ~ 60% very fine-grained, subrounded sand.		
4			CH	(4.4 to 5.0) CLAY, dark gray to grayish-black, dry slightly moist, medium plasticity, firm.			
6			5/5	SM/SC	(5.0 to 8.1) Clayey silty SAND, grayish-brown, moist, ~ 30% clay and silt, ~ 70% subrounded fine-grained sand, some clay lenses throughout, becoming saturated at 6 feet, increasingly clayey at 7.1 feet.		
8				CH			
10	4.9/5						
12		(8.1 to 15.0) Slightly silty CLAY, reddish-brown with some gray, very moist, high plasticity clay, soft becomes mostly gray with some reddish brown at 12 feet, some decayed vegetation.					
14							
16							
18							
20							
22							
24							
26							
28							
30							
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446				<u>Well Materials</u> (0.0 to 4.5) Casing, 2" sch. 40 PVC (4.5 to 14.5) Screen, 2" sch. 40 PVC, 0.01 slot (14.5 to 15.0) End Cap		<u>Annular Materials</u> (0.0 to 2.0) Portland Cement with 5% bentonite gel (2.0 to 4.0) Bentonite chips, 3/8" (4.0 to 15.0) Sand, 20/40 silica	
This boring log should not be used separately from the original report.							

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NC2B23B						
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/31/07		Borehole Diameter (in.): 12/8.25				
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 40				
PBW Project No. 1352				Field Supervisor: Tim Jennings, PG		Northing: 13554659.58				
				Drilling Method: Hollow Stem Auger		Easting: 3154227.19				
				Sampling Method: 5 ft split spoon		Ground Elev. (ft. MSL): 2.0				
				TOC Elev. (ft MSL)		2.37				
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description					
0		0.0	3/5	CL	(0.0 to 0.7) Sandy CLAY, dark gray, wet, ~ 10% fine sand, ~ 90% medium plasticity clay, soft, abundant roots.					
4				CL	(0.7 to 12.6) Sandy CLAY with silt, reddish-brown with gray mottling, moist to locally wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, firm and locally friable, gray mottling increasing below 4.5 feet, brown organic matter from 8 to 8.5 feet, no odor, becoming wet at 10 feet, a few small sand lenses from 12 to 12.6 feet.					
8					CLSP	(12.6 to 14.1) Sandy silty CLAY and SAND, gray, wet, ~ 20-30% fine-grained sand, ~ 20-30% silt, ~ 50% medium plasticity, a few oyster shells thin (< 0.1") sand interbeds.				
12						CL	(14.1 to 15.0) Silty CLAY, reddish-brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, firm.			
16					CL	(15.0 to 17.3) Silty sandy CLAY, gray, moist to locally wet, ~ 10-15% very fine-grained sand and silt, ~ 85-90% medium plasticity clay, very soft, very silty (wet at 15 to 15.7 feet and at 16.3 feet).				
20				CL		(17.3 to 23.1) Silty CLAY, greenish-gray (olive), moist, < 10% silt, ~ 90% medium plasticity clay, stiff, zone of carbonate nodules at 21.5 and 22.2 feet.				
24					CL	(23.1 to 26.4) Silty CLAY, reddish brown with gray mottling, moist, ~ 20-30% silt, ~ 70-80% medium plasticity clay, soft and friable.				
28				CL		(26.4 to 35.3) Silty sandy CLAY greenish gray with brown mottling, moist, ~ 10-20% silt, ~ 5% fine-grained sand, ~ 80-90% medium plasticity clay, very firm, locally fractured, ~ 2-inch thick lens of poorly graded, fine-grained, gray sand at 27.8 to 28 feet, becoming brown to reddish-brown with gray mottling below 30 feet, abundant carbonate nodules locally from 30 to 32 feet.				
32					CH	(35.3 to 40.0) CLAY, reddish-brown with gray mottling, moist, medium plasticity, very stiff, fat clay.				
36						Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 15.0 foot depth interval).				
40										

PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Well Materials (0.0 to 15.0) Surface Casing, 8" sch. 40 PVC	Annular Materials (15.0 to 40.0) Portland Cement with 5% bentonite gel
	Lithologic description for 0 to 15 foot depth interval from NC2MW28 boring	
	This boring log should not be used separately from the original report.	

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists					Log of Boring: ND4MW24B			
Gulfco Marine Maintenance Superfund Site Freeport, TX					Completion Date:	05/29/07	Borehole Diameter (in.):	12/8.25
					Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	34
PBW Project No. 1352					Field Supervisor:	Len Mason, PG	Northing:	13554569.19
					Drilling Method:	Hollow Stem Auger	Easting:	3154749.48
					Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	3.5
							TOC Elev. (ft MSL)	5.7
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0				CL	(0.0 to 0.2) Silty SAND, light brown, moist, very fine-grained sand, soft.			
2				CL	(0.2 to 0.6) Sandy CLAY, dark brown, moist, ~ 20% very fine-grained sand, ~ 80% medium plasticity clay, slightly firm.			
4				CL	(0.6 to 2.0) Sandy CLAY, dark brown, becomes black below 1.5 feet.			
6				CL	(2.0 to 4.2) Sandy CLAY, locally black and dark reddish-brown, becomes highly plastic below ~ 3.0.			
8				CL	(4.2 to 8.2) Sandy CLAY as above, reddish-brown, moist, wet below 5.9 feet, with thin sand interbeds locally.			
10				CL	(8.2 to 10.4) Sandy CLAY, brown, wet, ~ 40% very fine-grained sand, ~ 60% highly plastic clay, soft.			
12				SP	(10.4 to 15.6) Poorly graded SAND with clayey sand, brown, wet, ~ 80% fine-grained sand, ~ 20% high plasticity clay, very soft.			
14				CL/SP				
16				CH	(15.6 to 17.0) Poorly graded SAND and sandy CLAY, brown, wet, ~ 50% very fine-grained sand, ~ 50% high plasticity clay, very soft.			
18		1.3		CL	(17.0 to 19.0) Sandy CLAY, brown to grayish brown, wet, <5% fine-grained sand, ~95% high plasticity CLAY, soft.			
20		0.8	4/5	SM	(19.0 to 20.5) Silty CLAY with some very fine-grained sand, gray to brownish-gray, wet, low to medium plasticity, soft.			
22		0.8		CH	(20.5 to 22.5) Silty SAND, brown to brownish-gray, wet, sand is fine-grained with some medium sized grains, loose.			
24		0.3	5/5	CH	(22.5 to 24.0) Grades into a silty CLAY with trace sand, brown to gray wet, high plasticity, soft.			
26		0.1		CH	(24.0 to 34.0) Slightly silty CLAY with some trace sand, brown to gray, wet, high plasticity, becoming slightly firm to stiff at 29 feet.			
28		0.1	4/5	CH				
30		0.3			<i>Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 19.0 foot depth interval).</i>			
32		0.4						
34								
36								
38								
40								

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

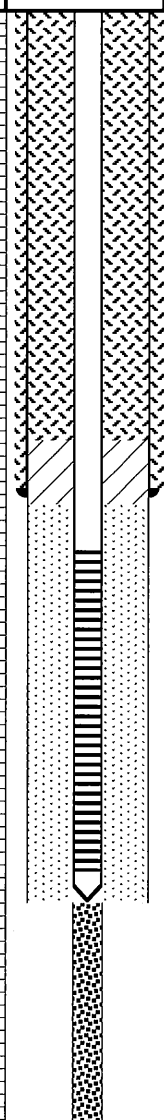
(0.0 to 19.0) Surface Casing, 8" sch. 40 PVC
(0.0 to 21.5) Casing, 2" sch. 40 PVC
(21.5 to 26.5) Screen, 2" sch. 40 PVC, 0.01 slot
(26.5 to 27.0) End Cap

Lithologic description for 0 to 19 foot depth interval from ND4W03 boring

Annular Materials

(0.0 to 17.0) Portland Cement with 5% bentonite gel
(17.0 to 20.0) Bentonite chips, 3/8"
(20.0 to 27.0) Sand, 20/40 silica
(27.0 to 34.0) coated bentonite pellets

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NG3MW25B					
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/30/07		Borehole Diameter (in.): 12/8.25			
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 35			
PBW Project No. 1352				Field Supervisor: Tim Jennings, PG		Northing: 13555045.25			
				Drilling Method: Hollow Stem Auger		Easting: 3154968.84			
				Sampling Method: 5 ft split spoon		Ground Elev. (ft. MSL): 2.2			
						TOC Elev. (ft MSL) 4.91			
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description				
0				SP	(0.0 to 0.4) Clayey SAND, brown, moist, ~ 20% low plasticity fines, 80% fine to medium-grained sand, soft.				
2				CL	(0.4 to 7.5) Sandy CLAY, gray 0.4 - 1.4 feet becoming reddish brown with gray mottling below, moist, ~ 10-20% very fine to fine-grained sand, ~ 80-90% medium plasticity clays, firm to soft, few oxidized iron nodules, becomes saturated below 4 feet.				
4									
6				SP	(7.5 to 12.0) Silty clayey SAND, brown, wet, ~ 20-50% low plasticity fines, ~ 70-80% very fine to fine-grained sand, very soft, increasing clay content below 11 feet, grades into sandy clay at 12 feet.				
8									
10				CL	(12.0 to 16.3) Sandy CLAY (CL), grayish brown, wet, ~10-20% fine-grained sand, ~ 80% medium plasticity clay, very soft becomes reddish-brown at 15 feet.				
12									
14				SP	(16.3 to 17.5) SAND, poorly graded, brown to gray, wet, sand is fine to medium-grained, poorly graded, with abundant shell fragments (~ 10%), very soft.				
16									
18				CL/SP	(17.5 to 18.4) Sandy CLAY with SAND, brown, wet, ~ 90% medium plasticity clay, with ~ 10% fine-grained sand as thin interbeds.				
20				SP	(18.4 to 19.0) SAND with shell fragments.				
22				CL - SP	(19.0 to 19.6) CLAY, brown, wet, medium plasticity, soft, with ~ 5-10% sand lenses.				
24				SP	(19.6 to 21.1) SAND, brown, wet, poorly graded, fine-grained, soft.				
26					(21.1 to 22.7) Interbedded CLAY and SAND, brown, wet, ~ 50% poorly graded, fine-grained sand interbeds, ~ 50% medium plasticity clay, very soft.				
28				SP	(22.7 to 32.0) SAND, brown, wet (flowing), fine-grained, ~ 30% medium plasticity clay from 28.5 to 29 feet.				
30									
32				CL	(32.0 to 35.0) Silty CLAY, brown with gray mottling, moist, ~ 90% medium plasticity clay, very stiff.				
34									
36							Note: Portland Cement with 5% bentonite gel placed outside of the surface casing (0.0 to 15.0 foot depth interval).		
38									
40									
<div>PBW</div> <div>Pastor, Behling & Wheeler, LLC</div> <div>2201 Double Creek Dr., Suite 4004</div> <div>Round Rock, TX 78664</div> <div>Tel (512) 671-3434 Fax (512) 671-3446</div>				Well Materials		Annular Materials			
				(0.0 to 15.0) Surface Casing, 8" sch. 40 PVC		(0.0 to 13.5) Portland Cement with 5% bentonite gel			
				(0.0 to 17.0) Casing, 2" sch. 40 PVC		(13.5 to 15.5) Bentonite chips, 3/8"			
				(17.0 to 27.0) Screen, 2" sch. 40 PVC, 0.01 slot		(15.5 to 27.5) Sand, 20/40 silica			
				(27.0 to 27.5) End Cap					
				Lithologic description for 0 to 17 foot depth interval from NG3MW19, borehole caved in from 27.5 to 35 feet.					
				This boring log should not be used separately from the original report.					

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: OB26B	
Gulfco Marine Maintenance Superfund Site Freeport, TX		Completion Date:	05/30/07
		Borehole Diameter (in.):	8.25
PBW Project No. 1352		Drilling Company:	Master Monitoring Services, Inc.
		Total Depth (ft):	40
		Field Supervisor:	Tim Jennings, PG
		Northing:	13554963.98
		Drilling Method:	Hollow Stem Auger
		Easting:	3154008.4
		Sampling Method:	5 ft split spoon
		Ground Elev. (ft. MSL):	1.6
		TOC Elev. (ft MSL)	NA

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.0	3/3	CL	(0.0 to 0.8) Silty, sandy, CLAY, dark gray, wet, ~ 20% silt and very fine-grained sand, ~ 80% medium plasticity clay, soft, abundant roots abundant organic matter.
2				CL	
4				CL	(0.8 to 7.5) Sandy CLAY, reddish-brown with gray mottling, moist, ~ 10% fine sand, ~ 90% medium plasticity clay, firm, few oxidized iron nodules.
6			5/5	CL	(7.5 to 10.0) Sandy CLAY, gray with reddish-brown mottling, moist, ~ 10-20% fine-grained sand, ~ 80% medium plasticity clay, firm to soft.
8				CL	(10.0 to 12.4) Silty CLAY, reddish brown, wet, < 20% low plasticity silt, > 80% high plasticity clay, soft, a few small carbonate concretions
10				CL	(12.4 to 13.6) Silty CLAY, gray, wet, ~ 50 % silt, ~ 50% medium plasticity clay, very soft.
12			5/5	CL	(13.6 to 15.2) Silty CLAY, reddish-brown with gray mottling, moist, ~ 20% silt and very fine-grained sand, ~ 80% medium plasticity clay, soft.
14				CL	(15.2 to 17.0) CLAY, gray, moist, low plasticity, friable, a few iron nodules, firm.
16				CL	(17.0 to 20.2) Silty CLAY, gray with brown mottling, moist, ~ 10-20% silt decreasing with depth, ~ 80-90% medium plasticity clay, very firm, few carbonaceous nodules.
18			5/5	CL	(20.2 to 20.6) Clayey SAND, gray, moist, ~ 40% low plasticity clay, ~ 60% fine-grained sand, firm.
20				CL	(20.6 to 22.9) Silty CLAY, gray with brown mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, very firm, a few carbonate nodules.
22				CL	(22.9 to 25.8) Silty CLAY, reddish brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, < 5% carbonate nodules and seams, locally fractured, very stiff.
24			5/5	CL	(25.8 to 40.0) Silty CLAY, greenish-gray with brown mottling, moist, ~ 10% silt, ~ 90% medium plasticity clay, very firm to stiff, few carbonate nodules, reddish brown below 34 feet, increase in silt from 36.5 to 37 feet, ~ 50% silt, moist.
26				CL	
28				CL	
30			5/5	CL	
32				CL	
34				CL	
36				CL	
38				CL	
40				CL	

Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 17.0 foot depth interval).

PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	<u>Well Materials</u>	<u>Annular Materials</u>
	(0.0 to 17.0) Surface Casing, 8" sch. 40 PVC	(17.0 to 40.0) Portland Cement with 5% bentonite gel
	<u>Lithologic description for 0 to 17 foot depth interval logged from OMW20 boring</u> This boring log should not be used separately from the original report.	

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NC2MW28					
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/25/07		Borehole Diameter (in.): 8.25			
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 15			
PBW Project No. 1352				Field Supervisor: Tim Jennings, PG		Northing: 13554651.88			
				Drilling Method: Hollow Stem Auger		Easting: 3154233.16			
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 1.8			
						TOC Elev. (ft MSL) 4.76			
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description				
0		0.2	5/5	CL	(0.0 to 0.7) Sandy CLAY, dark gray, wet, ~ 10% fine-grained sand, ~ 90% medium plasticity clay, soft, abundant roots.				
2		0.0		CL	(0.7 to 12.6) Sandy CLAY with silt, reddish-brown with gray mottling, moist to locally wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, firm and locally friable, gray mottling increasing below 4.5 feet, brown organic matter from 8 to 8.8 feet, no odor, becoming wet at 10 feet, a few thin sand lenses from 12 to 12.6 feet.				
4		0.0							
6		0.0	4/5						
8		0.0							
10		0.0	5/5	CL/SP					
12		0.0							
14		0.0		CL	(12.6 to 14.1) Sandy silty CLAY, gray, wet, ~ 20-30% fine-grained sand, ~ 20-30% silt, ~ 50% medium plasticity clay, very soft, few oyster shells, a few thin (< 0.1") sand interbeds.				
16					(14.1 to 15.0) Silty CLAY, reddish-brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, firm.				
18									
20									
22									
24									
26									
28									
30									
<div>PBW</div> <div>Pastor, Behling & Wheeler, LLC</div> <div>2201 Double Creek Dr., Suite 4004</div> <div>Round Rock, TX 78664</div> <div>Tel (512) 671-3434 Fax (512) 671-3446</div>				Well Materials		Annular Materials			
				(0.0 to 5.0) Casing, 2" sch. 40 PVC (5.0 to 14.5) Screen, 2" sch. 40 PVC, 0.01 slot (14.5 to 15.0) End Cap		(0.0 to 1.0) Portland Cement with 5% bentonite gel (1.0 to 4.0) Bentonite chips, 3/8" (4.0 to 15.0) Sand, 20/40 silica			
This boring log should not be used separately from the original report.									

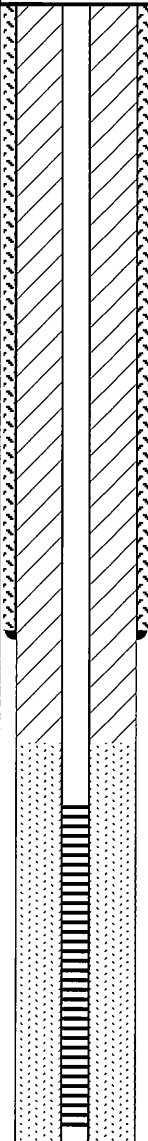
This boring log should not be used separately from the original report.

Log of Boring: NE3MW30B

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	11/26/07	Borehole Diameter (in.):	12.5/8.25
Drilling Company:	Universal Drilling Services	Total Depth (ft):	35.5
Field Supervisor:	Len Mason, PG	Northing:	13554690.78
Drilling Method:	Hollow Stem Auger	Easting:	3154741.85
Sampling Method:	5 ft core barrel	Ground Elev. (ft. MSL):	3.5
		TOC Elev. (ft MSL)	6.70

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		246	4.7/5	CL	(0.0-0.9) Sandy, silty, CLAY, brown with some orange mottling, moist, ~ 10-15% very fine sand, ~ 30% silt, soft, medium to low plasticity.
2				CL	(0.9-2.8) CLAY, brown, moist, medium plasticity, trace wood fragment at 1.8 feet.
4			4/5	CL	(2.8-8.0) Sandy CLAY, gray, moist to wet at 4.5 feet, some (~ 10%) sandy lenses, soft, medium-high plasticity, gray with some brown mottling below 5 feet.
6				CL	(8.0-12.5) Sandy CLAY, brown with gray mottling to 10 feet, brown below 10 feet, moist, ~ 20-30% fine sand, very soft, medium plasticity, becomes wet below 11.2 feet.
8			5/5	CL	(12.5-17.0) Silty SAND, brown, wet, sand is very fine, ~ 20% silt, loose.
10				SM	(17.0-18.0) Clayey, silty, SAND, brown with some gray, wet, ~ 10-15% gray clay, ~ 30% silt, sand is very fine, loose.
12			2.5/3	SM-SC	(18.0-20.0) CLAY with some silty sand zones, brown, moist, soft, medium-high plasticity, becomes gray and firm at 19 feet.
14				CL	(20.0-25.0) Silty SAND, brown, wet, sand is very fine, loose, chemical odor, sheen observed, flowing sand.
16			2/2	CL	(25.0-25.5) Slightly sandy CLAY, gray, moist, ~ 5-10% very fine sand, soft, medium-high plasticity, chemical odor.
18				CL	(25.5-26.4) Slightly clayey SAND, brown and gray, wet, ~ 10% fine clay layers throughout, sand very fine, slight odor.
20			2/5	SM	(26.4-26.8) Sandy CLAY, brownish-gray, moist, high plasticity, soft to firm.
22				SM	(26.8-27.5) Silty SAND with some shell material, gray, wet, sand is very fine, ~ 20% silt, chemical odor.
24			2/2.5	CH	(27.5-28.5) Sandy CLAY, gray, moist, ~ 20-30% fine sand, soft, high plasticity, chemical odor, wet gray sand layer with shell material from 28-28.2 feet.
26				SC	(29.5-34.1) SAND, brown to gray, wet, shell material throughout, fine to medium sand, subrounded to subangular, strong chemical odor, sheen throughout, locally abundant NAPL visible within sand from 33.9 to 34.1, soil sample (SBMW30-01) collected from 33.6-34.1 feet.
28			2/2.5	CH	(34.1-35.5) CLAY, gray, moist, high plasticity, firm, fat clay, slight odor, no NAPL staining or sheen observed within clay.
30				SM/SP	
32			5/35	CL	
34				CL	
36			1/2.5	SW	
38				SW	
40			2.5/2.5	CL	
				CL	

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0 to 19.5) Surface Casing, 12" sch. 40 PVC
(0.0 to 25.0) Casing, 2" sch. 40 PVC
(25.0 to 35.0) Screen, 2" sch. 40 PVC, 0.01 slot
(35.0 to 35.5) End Cap

Annular Materials

(0.0 to 18.5) Portland Cement with 5% bentonite gel outside of surface casing
(0.0 to 23.0) Bentonite chips, 3/8" inside surface casing
(23.0 to 35.5) Sand, 16/30 silica

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: NE4MW31B			
Gulfco Marine Maintenance Superfund Site Freeport, TX			Completion Date: 06/13/08		Borehole Diameter (in.): 8.0/13.0	
			Drilling Company: Universal Drilling		Total Depth (ft): 45	
PBW Project No. 1352			Field Supervisor: Tim Jennings, P.G.		Northing: 3154903.18	
			Drilling Method: Hollow Stem Auger		Easting: 13554709.81	
			Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 3.0	
					TOC Elev. (ft. MSL) 6.01	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0				RD BASE	(0.0-0.8) Caliche road base.	
0.2		5/5	CL/CH	(0.8-6.2) Sandy CLAY, gray with brown mottling, moist, ~5 to 10% fine-grained sand, ~ 90 to 95% medium to high plasticity clays.		
0.3						
5		5/5	CH	(6.2-8.5) Silty sandy CLAY, brown with gray mottling, moist to locally wet, ~5 to 10% fine-grained sand, ~15 to 20% silt, ~70 to 80% high plasticity clay, soft.		
0.4						
10		5/5	ML	(8.5-9.4) Clayey SILT, grayish-brown, wet, ~30 to 40% high plasticity clay, ~60 to 70% silt, soft.		
0.2						
0.2						
0.2						
15		5/5	SM	(9.4-11.3) Silty SAND, grayish-brown to brown, wet, ~10 to 30% silt, ~70 to 90% fine-grained sand, soft.		
0.2						
0.2						
0.2						
20		1/5	CH	(11.3-13.4) Sandy clayey SILT, brown, wet, ~10 to 20% high plasticity clay, ~20 to 30% fine-grained sand, ~50 to 70% silt, very soft.		
0.2						
0.2						
0.2						
25		2.5/5	NR	(13.4-16.0) Sandy CLAY, grayish-brown, wet, ~10 to 20% very fine-grained sand, ~80 to 90% high plasticity clay, very soft.		
0.2						
0.2						
0.2						
30	2.5/5	SP	(16.0-20.0) NO RECOVERY.			
0.2						
0.2						
0.2						
35	0/5	NR	(20.0-30.0) SAND, poorly graded, brown, wet, very fine-grained to medium-grained sand with ~5% shell fragments at 20.0 to 21.5, very fine-grained to fine-grained sand with trace shell fragments at 21.5 to 30.0, firm, trace gray clay.			
0.2						
0.2						
0.2						
40	0/5	NR	(30.0-40.0) NO RECOVERY in flowing sands.			
0.2						
45	0.25/5	CL	(40.0-45.0) Sandy CLAY in shoe of core barrell, only recovered 0.2', drilled like clay.			

PBW

Pastor, Behling & Wheeler, LLC

2201 Double Creek Dr., Suite 4004

Round Rock, TX 78664

Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0-16.0) Surface Casing, 10" sch. 40 PVC

(0.0-18.0) Casing, 2" sch. 40 PVC

(18.0-28.0) Screen, 2" sch. 40 PVC, 0.01" slot

(28.0-28.3) End Cap

Annular Materials

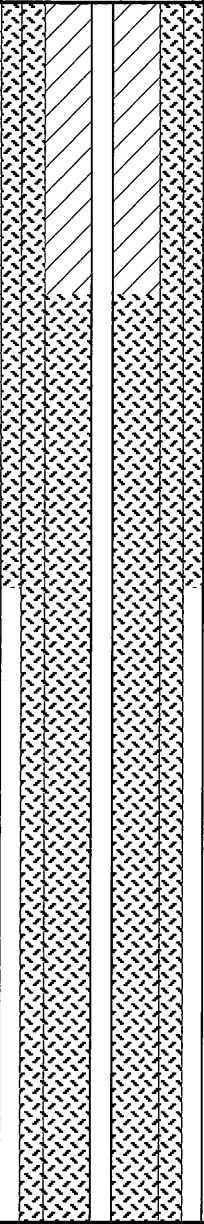
(0.0-12.0) Cement/Bentonite slurry, inside surf. casing

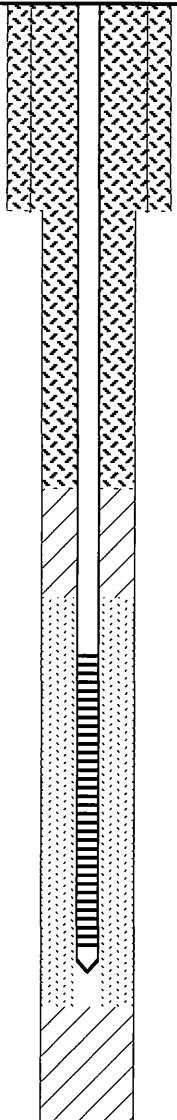
(0.0-16.0) Cement/Bentonite slurry, outside surf. casing


(12.0-17.0) 3/8" bentonite chips, inside surf. casing

(17.0-29.7) 16/30 silica sand

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NE4MW32C					
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 06/13/08		Borehole Diameter (in.): 8.0/13.0/17.5			
				Drilling Company: Universal Drilling		Total Depth (ft): 80			
PBW Project No. 1352				Field Supervisor: Tim Jennings, P.G.		Northing: 3154802.32			
				Drilling Method: Hollow Stem Auger		Easting: 13554653.07			
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 3.2			
						TOC Elev. (ft MSL) 6.31			
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description				
0				RD BASE	(0.0-0.5) Caliche road base, plugged sampler, no recovery.				
			0.25/5	CL	(0.5-5.0) Sandy CLAY.				
5			0.5	0.5/5	ML	(5.0-10.0) Sandy SILT, brown, wet, ~20 to 30% fine-grained sand, ~70 to 80% low plasticity silt.			
10				0.1	5/5	SM	(10.0-14.4) Silty clayey SAND, brown, wet, ~10 to 20% medium plasticity clay in thin (<0.5") interbeds, 20 to 30% low plasticity silt, ~50 to 80% fine-grained sand, soft.		
15			0.1	5/5	SP	(14.4-19.2) SAND, poorly graded, brown, wet, very fine-grained to fine-grained sand, soft; black, natural organic material locally.			
20			0.2		CL	(19.2-20.5) CLAY, grayish-brown, wet, medium plasticity clay, locally bedded, soft.			
25			0.6	5/5	CL	(20.5-26.2) Sandy CLAY, grayish-brown, wet, ~20 to 30% fine-grained sand, ~70 to 80% medium plasticity clay, very soft, barrel filled with cuttings and slough from inside casing--resulted in poor recovery.			
30			44.1	2.5/5	SP	(26.2-29.0) SAND, grades to poorly graded sand, brown, wet, very fine-grained to fine-grained sand, very soft.			
35			14.2	3/5	SP	(29.0-35.0) Poorly graded SAND and clayey SAND, wet, ~10% high plasticity clay in sand locally, ~90% fine-grained to medium-grained sand, shell fragments throughout.			
40			0	2/5	SP	(35.0-40.2) SAND, poorly graded, brown, wet, very fine-grained to fine-grained sand, compact, gray below 39.0.			
			1		CH	(40.2-41.7) CLAY, gray, wet, high plasticity clay, soft.			
<div>PBW</div> <div>Pastor, Behling & Wheeler, LLC</div> <div>2201 Double Creek Dr., Suite 4004</div> <div>Round Rock, TX 78664</div> <div>Tel (512) 671-3434 Fax (512) 671-3446</div>				<div>Well Materials</div> <div>(0.0-20.0) Surface Casing, 14" sch. 40 PVC</div> <div>(0.0-48.8) Surface Casing, 10" sch. 40 PVC</div> <div>(0.0-64.0) Casing, 2" sch. 40 PVC</div> <div>(64.0-74.0) Screen, 2" sch. 40 PVC, 0.01" slot</div> <div>(74.0-74.3) End Cap</div>		<div>Annular Materials</div> <div>(0.0-10.0) Bentonite chips, inside 10" casing</div> <div>(0.0-20.0) Cement/Bentonite slurry, outside 14" casing</div> <div>(0.0-48.8) Cement/Bentonite slurry, outside 10" casing</div> <div>(10.0-58.3) Cement/Bentonite slurry, inside 10" casing</div> <div>(58.3-62.0) 3/8" bentonite chips</div> <div>(62.0-76.0) 16/30 silica sand</div> <div>(76.0-80.0) Coated bentonite pellets</div>			
This boring log should not be used separately from the original report.									

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NE4MW32C			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 06/13/08		Borehole Diameter (in.): 8.0/13.0/17.5	
				Drilling Company: Universal Drilling		Total Depth (ft): 80	
PBW Project No. 1352				Field Supervisor: Tim Jennings, P.G.		Northing: 3154802.32	
				Drilling Method: Hollow Stem Auger		Easting: 13554653.07	
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 3.2	
						TOC Elev. (ft MSL) 6.31	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
45		9.2	3/5	SP	(41.7-45.8) Poorly graded SAND and clayey SAND, gray, wet, ~20% high plasticity clay, ~80% fine-grained sand.		
50				CH	(45.8-47.1) CLAY, gray, wet, high plasticity clay.		
		5/5	CB	(47.1-47.4) SAND, poorly graded, gray, wet, fine-grained to medium-grained sand interbedded in clay. (47.4-47.7) CLAY, gray, wet.			
		55	3/3	CL	(47.7-55.0) Sandy CLAY, reddish-brown with gray mottling, ~5 to 10% very fine-grained sand, ~90 to 95% medium plasticity clay, a few small shell fragments near top, very stiff and dense.		
2/2			CH	(55.0-60.0) Silty CLAY, gray with local red mottling, moist, ~5 to 10% silt as very thin interbeds and lenses, a few silt lenses and thin (<0.1') interbeds at 57.0 to 58.5.			
60		2/2		(60.0-60.5) CLAY, gray, ~20 to 30% shell fragments.			
		65	0.1	3/3	CH		
70			0	5/5	CH	(60.5-72.7) CLAY, very dark gray, moist, high plasticity, clay with abundant natural organic material at 62.5 to 68.0, a few shell fragments.	
		75	0.2	5/5	CH		
80			0.5	5/5	SHELL	(72.7-73.0) SHELL layer, appears to contain some water.	
		0.3	CH		(73-73.8) CLAY, similar to the material at 60.5 to 72.7.		
			0.3	5/5	CH	(73.8-80) CLAY, bluish-gray, moist, high plasticity clay with few shell fragments, very firm to stiff, thin silt bed at 77.7.	

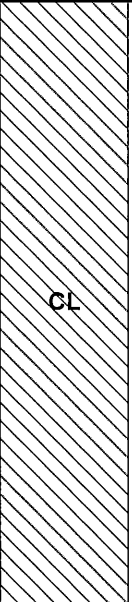

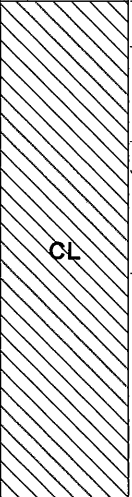


Pastor, Behling & Wheeler, LLC
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Well Materials	Annular Materials
(0.0-20.0) Surface Casing, 14" sch. 40 PVC	(0.0-10.0) Bentonite chips, inside 10" casing
(0.0-48.8) Surface Casing, 10" sch. 40 PVC	(0.0-20.0) Cement/Bentonite slurry, outside 14" casing
(0.0-64.0) Casing, 2" sch. 40 PVC	(0.0-48.8) Cement/Bentonite slurry, outside 10" casing
(64.0-74.0) Screen, 2" sch. 40 PVC, 0.01" slot	(10.0-58.3) Cement/Bentonite slurry, inside 10" casing
(74.0-74.3) End Cap	(58.3-62.0) 3/8" bentonite chips
	(62.0-76.0) 16/30 silica sand
	(76.0-80.0) Coated bentonite pellets

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NB4PZ01			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/21/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
				Field Supervisor:	Len Mason, P.G.	Northing:	13554276.47
				Drilling Method:	Direct Push	Easting:	3154459.85
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.3
PBW Project No. 1352						TOC Elev. (ft MSL):	---
Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0			SC/SM	(0.0 to 0.7) Clayey silty SAND, brown, very fine-grained, subrounded, quartz, very low plasticity to uncohesive, dry.			
2	0.5	3.1/4	CL	(0.7 to 13.1) CLAY, brown and gray, slightly mottled, soft, medium plasticity, slightly moist, becoming soft and moist below 5.4; becoming very soft at 6.6; becoming very moist to saturated at 8.0; becoming mostly greenish-gray with some brown, moist to very moist, saturated in areas at 9.0.			
4	0.8						
6	0.8	3.6/4					
8	0.9						
10	0.9	3.8/4					
12	0.9		ML	(13.1 to 18.9) Slightly sandy clayey SILT, brown, and greenish gray, very soft, uncohesive, saturated.			
14		3.7/4					
16	1.3						
18	1.6	4/4	CL	(18.9 to 22.0) CLAY, gray to olive gray, firm, medium plasticity, slightly moist to dry, trace gravel.			
20	1.9						
22		2/2					
24							
26							
28							
30							
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446				Comments: A temporary piezometer (screened interval 9 - 19 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NC3PZ02			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/21/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	28
				Field Supervisor:	Len Mason, P.G.	Northing:	13554519.81
				Drilling Method:	Direct Push	Easting:	3154398.52
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.9
PBW Project No. 1352				TOC Elev. (ft MSL): ---			
Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0			 CL	(0.0 to 14.6) Silty CLAY, reddish-brown to brown, soft, low plasticity, slightly moist; becoming gray and reddish-brown to brown, slightly mottled at 3.0; becoming greenish-gray and brown, slightly mottled, very soft at 8.0.			
2	0.6	3.6/4					
4	0.9						
6	0.9	3.9/4					
8	1.2						
10	1.5	3.6/4					
12							
14		4/4					
16	0.6		 ML	(14.6 to 15.9) Clayey SILT, brown and grayish-brown, saturated, very soft, uncohesive.			
18	1	3.8/4	 CL	(15.9 to 17.0) CLAY, gray, medium plasticity, soft to firm, moist.			
20	1.9			(17.0 to 19.3) Silty CLAY, brown and gray, very soft, uncohesive, very moist.			
22	2	3.7/4		(19.3 to 20.0) CLAY, gray, some greenish-gray, soft to firm, medium plasticity, slightly moist.			
24	1.4			(20.0 to 22.5) Silty CLAY, brown and gray, very soft, uncohesive, very moist.			
26	1.1	3.8/4		(22.5 to 28.0) CLAY, trace gravel, gray and olive-brown, mottled, reddish-brown at 26.7 to 27.6, firm, slightly moist to dry, medium plasticity.			
28	1.7						
30							
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446				Comments: A temporary piezometer (screened interval 12.5 - 22.5 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: ND1PZ03

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	18
Field Supervisor:	Len Mason, P.G.	Northing:	13554945.56
Drilling Method:	Direct Push	Easting:	3154263.8
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.2
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				(0.0 to 1.2) Slightly sandy, silty CLAY, brown; very fine-grained, subrounded, quartz sand; firm, medium plasticity, slightly moist.
2	6.2	2.9/4		
4	10.5			
6	8.8	3.7/4		
8	25.2			
10	12.5	3.9/4	CL	(1.2 to 15.7) CLAY, brown and gray, slightly mottled, soft to firm, medium plasticity, slightly moist, very moist at 4.0, some black staining at 10.2, saturated and very soft at 12.0.
12	44.7			
14	24.9	3.9/4		
16	17.9			
18	29.3	1/2		(15.7 to 18.0) CLAY, gray, firm, medium plasticity, dry to slightly moist.
20				
22				
24				
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 5.5 - 15.5 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				<h2 style="margin: 0;">Log of Boring: ND3PZ04</h2>			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/21/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
				Field Supervisor:	Len Mason, P.G.	Northing:	13554698.81
				Drilling Method:	Direct Push	Easting:	3154524.94
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.4
PBW Project No. 1352						TOC Elev. (ft MSL):	---
Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0				(0.0 to 1.1) Slightly sandy CLAY, gray, some olive-brown; very fine-grained, subrounded sand; soft, low plasticity, slightly moist.			
2	60.1	3/4	CL	(1.1 to 4.5) CLAY, gray, some olive-brown, soft to slightly firm, medium plasticity, slightly moist.			
4							
6	167	2.9/4	CL/ML	(4.5 to 6.5) Silty CLAY to clayey SILT, brown and gray, mottled, very soft, low plasticity, very moist to saturated, slight odor.			
8	181			(6.5 to 17.0) Sandy clayey SILT, brown; very fine-grained, poorly sorted, subrounded, quartz sand; uncohesive, saturated, odor.			
10	170						
12	304	3.5/4					
14	121		ML				
16	166	3.9/4		(17.0 to 20.0) CLAY, brown, some gray, very soft, medium plasticity, moist, odor, becoming greenish-gray, firm to medium plasticity, slightly moist to dry, trace iron nodules at 19.0.			
18	13						
20	28.1	3.8/4	CL				
22	8.1						
24							
26							
28							
30							
<h1 style="margin: 0;">PBW</h1> <p style="margin: 5px 0 0 0;"> Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446 </p>				<u>Comments:</u> A temporary piezometer (screened interval 7 - 17 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NF1PZ05			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	08/01/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	18
				Field Supervisor:	Tim Jennings, P.G.	Northing:	13555211
				Drilling Method:	Direct Push	Easting:	3154490.84
PBW Project No. 1352				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.2
						TOC Elev. (ft MSL):	---
Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0	3.1	1/4	CL	(0.0 to 6.2) Sandy CLAY, dark grayish-brown, moist, ~ 20% fine-grained sand, ~ 80% medium plasticity clay, firm.			
2							
4	4.9	3/4	SC/SM	(6.2 to 8.0) Silty clayey SAND, brown, wet, ~ 50% medium plasticity fines, ~ 50% very fine to fine-grained sand, soft.			
6	5.8						
8	4.8	4/4	CH	(8.0 to 9.7) Silty CLAY, gray to brown, wet, high plasticity, soft.			
10	3.6		SM/SC	(9.7 to 12.0) Silty clayey SAND, brown, wet, ~ 20% to 30% high plasticity fines, ~ 70% to 80% very fine to fine-grained sand, soft.			
12	1.3	4/4	CH	(12.0 to 13.4) Silty sandy CLAY, brown, wet, ~ 30% to 40% very fine-grained sand and silt, ~ 60% to 70% high plasticity clay, very soft.			
14	1.2		SM/CH	(13.4 to 16.7) Silty SAND and CLAY, brown, wet, ~ 20% to 30% high plasticity fines (thin clay interbeds), ~ 70% to 80% very fine to fine-grained sand, soft.			
16	1.3	2/2	CH/SP	(16.7 to 18.0) Interbedded CLAY and SAND, ~30% poorly graded sand as thin (< 0.1 inch) beds and ~ 70% high plasticity clay, top of first confining clay.			
18							
20							
22							
24							
26							
28							
30							
<div> PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446 </div>				Comments: A temporary piezometer (screened interval 8 - 18 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				<h2 style="margin: 0;">Log of Boring: NF3PZ06</h2>			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/31/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	16
				Field Supervisor:	Tim Jennings, P.G.	Northing:	13554991.77
				Drilling Method:	Direct Push	Easting:	3154813.75
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.5
PBW Project No. 1352						TOC Elev. (ft MSL):	---
Depth (ft)	PID (ppm-γ)	Recovery (ft/ft)	USCS	Lithologic Description			
0	2.6			(0.0 to 4.8) Silty CLAY, dark brown to gray, moist, medium plasticity fines, abundant roots, firm.			
2	1.8	4/4					
4	2.3						
6		2/4	CL	(4.8 to 13.1) Silty sandy CLAY, brown, wet, ~ 30% to 40%, fine sand, ~ 60% to 70% medium plasticity fines, very soft.			
8	1.3						
10	2.7	4/4					
12	4.5			(13.1 to 14.7) Silty CLAY, brown, moist, high plasticity fines, soft, first confining clay.			
14	4.7	4/4	CH				
16			SW				
(14.7 to 16.0) Well-graded SAND, brown, wet, very fine to medium-grained sand with shell fragments.							
18							
20							
22							
24							
26							
28							
30							
<h1 style="margin: 0;">PBW</h1> <p style="margin: 5px 0 0 0;"> Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446 </p>				<u>Comments:</u> A temporary piezometer (screened interval 3 - 13 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: SA4PZ07			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/20/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	24
				Field Supervisor:	Len Mason, P.G.	Northing:	13553911.84
				Drilling Method:	Direct Push	Easting:	3154746.34
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	5.4
PBW Project No. 1352						TOC Elev. (ft MSL):	---
Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0			SC	(0.0 to 1.5) Clayey SAND, brown with strong brown, plant material, loose, dry, trace gravel.			
2	0.5	3/4	CL	(1.5 to 2.0) Silty CLAY, brown, reddish-brown, some black, slightly mottled, soft, medium plasticity, organic material at base.			
4	0.6		SM/SC	(2.0 to 4.1) Clayey silty SAND; brown, grayish-brown, and reddish-brown, trace mottling, very fine-grained, subrounded, poorly sorted sand, unconsolidated, some root material, slightly moist, partially decayed plant material at 4.0.			
6	0.6	3.5/4	CL	(4.1 to 8.0) CLAY, gray, soft to firm, medium plasticity; becomes mottled gray, greenish gray, and reddish brown at 5.4; becomes very moist at 5.4; saturated, silty sand lens (< 0.1 feet) at 5.4.			
8	0.6		SC/SM	(8.0 to 9.6) Clayey, silty SAND, grayish-brown, some reddish-brown, very fine-grained, subrounded, poorly sorted sand, unconsolidated, saturated, sharp basal contact.			
10	0.8	3.9/4					
12	0.7						
14	0.6	3.9/4					
16	0.6		CL	(9.6 to 24.0) Silty CLAY, reddish-brown with some light greenish gray, slightly mottled, soft, medium plasticity, moist; becoming more greenish-gray with some reddish brown and trace black at 10.5; becoming reddish-brown at 14.9; becoming greenish-gray with local areas of reddish-brown, very soft, very moist at 16.0; becoming dry and firm at 22.6.			
18	0.5	4/4					
20	0.7						
22	0.7	3.9/4					
24	1.1						
26							
28							
30							
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446				Comments: A temporary piezometer (screened interval 12 - 22 ft.) was installed adjacent to this location. The borehole was plugged with bentonite pellets. This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: SD3PZ08			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/20/06	Borehole Diameter (in.):	2
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	28
				Field Supervisor:	Len Mason, P.G.	Northing:	13554214.87
				Drilling Method:	Direct Push	Easting:	3154926.63
				Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	5.6
PBW Project No. 1352						TOC Elev. (ft MSL):	---
Depth (ft)	P.D. (ppm-%)	Recovery (ft/ft)	USCS	Lithologic Description			
0			Fill	(0.0 to 0.5) GRAVEL with sand.			
2	1.1	3.5/4	CL	(0.5 to 2.4) CLAY, brown, greenish-gray and black, slightly mottled, soft, medium plasticity, slightly moist.			
4	1.2		SM	(2.4 to 4.6) Silty SAND, light brown, sand is fine-grained, subrounded, poorly sorted, mostly quartz, unconsolidated, slightly moist, becoming silty clay near base.			
6	1.9	4/4	CL	(4.6 to 8.7) CLAY, dark gray to dark greenish-gray, some reddish-brown, slightly mottled, soft, medium plasticity, slightly moist, trace root material.			
8	2			(8.7 to 9.8) Sandy silty CLAY, grayish-brown, soft, low plasticity, moist, some sand stringers, very thin, sand is very fine-grained and subrounded.			
10	1.6	4/4		(9.8 to 11.5) CLAY, gray and strong brown, mottled, soft, medium plasticity, moist.			
12	1.7		ML	(11.5 to 13.7) Clayey, sandy SILT, brown and brownish-gray, soft, unconsolidated, very moist to saturated, becoming saturated at 12.1.			
14	1.6	3.5/4	ML/SC	(13.7 to 25.5) Slightly clayey, sandy SILT, brown, sand is very fine-grained, mostly quartz, unconsolidated, saturated, sand stringers throughout, slightly less saturated at 21.9.			
16	1.5						
18	1.5	3.8/4					
20	1.2						
22	1.1	3.7/4					
24	1.6		CL	(25.5 to 28.0) CLAY, greenish-gray and brown, mottled, firm, medium to high plasticity, slightly moist.			
26	1.6	4/4					
28	1.1						
30							
PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446				Comments:			
				A temporary piezometer (screened interval 12 - 22 ft.) was installed adjacent to this location.			
				The borehole was plugged with bentonite pellets.			
				This boring log should not be used separately from the original report.			

APPENDIX E
CPT PROFILES



CPT Data

Job Number 04.1908-0042

CPT Number NG3-CPT1

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

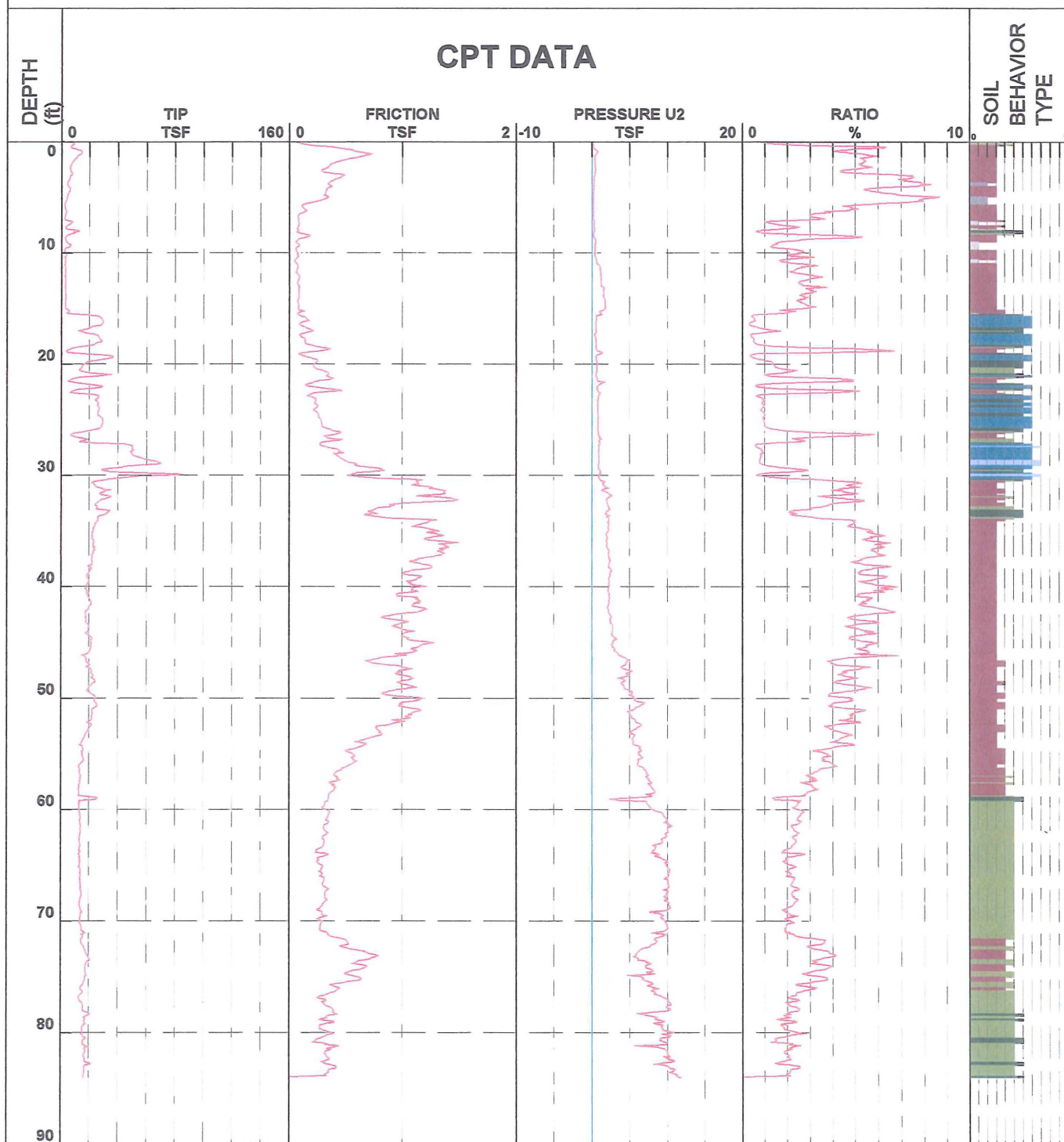
Date and T 03-Jun-2008 08:55:23

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft



1 - sensitive fine grained

4 - silty clay to clay

7 - silty sand to sandy silt

10 - gravelly sand to sand

2 - organic material

5 - clayey silt to silty clay

8 - sand to silty sand

11 - very stiff fine grained (*)

3 - clay

6 - sandy silt to clayey silt

9 - sand

12 - sand to clayey sand (*)

Robertson et al. 1986 * Overconsolidated or Cemented



CPT Data

Job Number 04.1908-0042

CPT Number NC2-CPT3

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

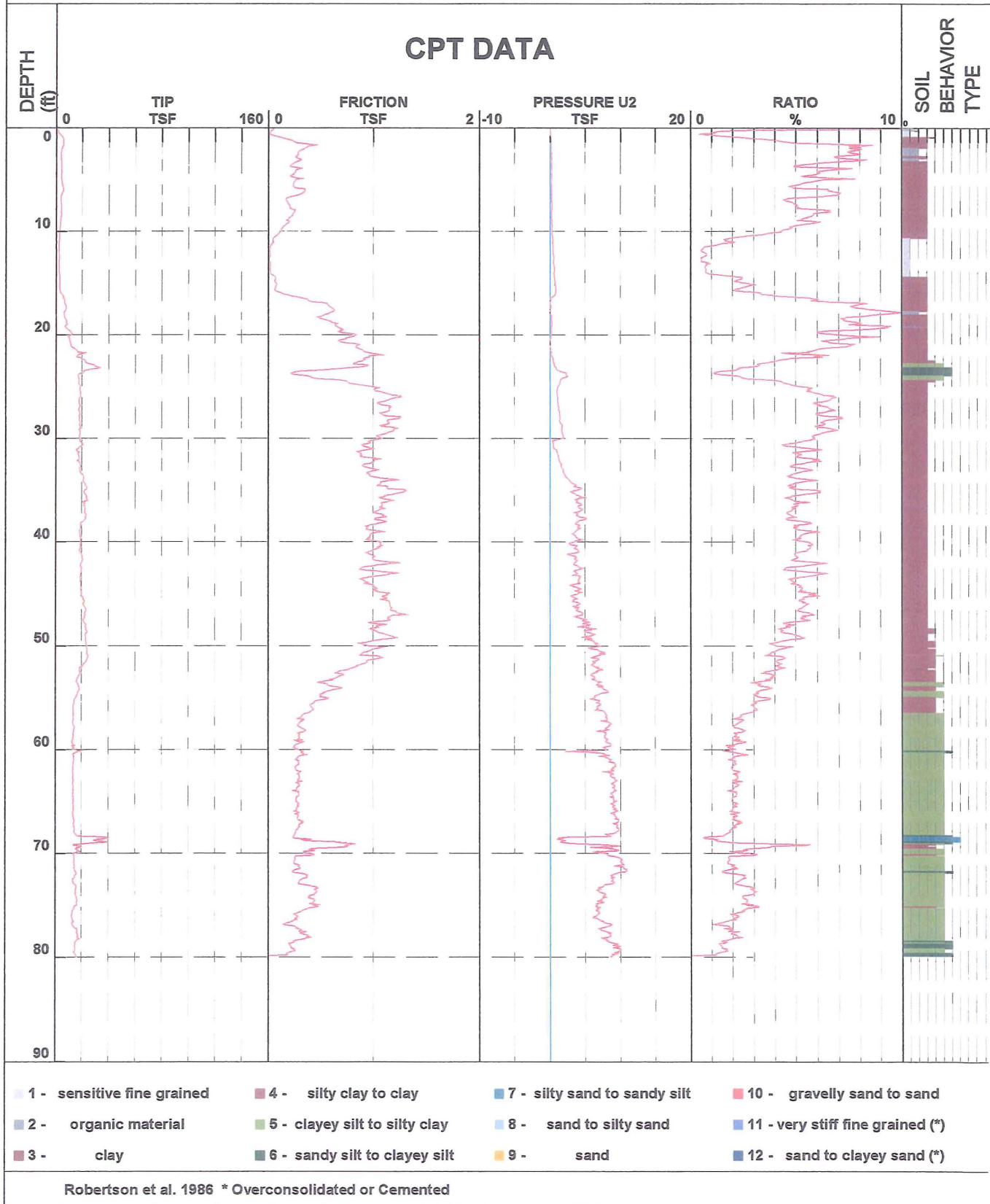
Date and T 02-Jun-2008 14:04:29

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft





CPT Data

Job Number 04.1908-0042

CPT Number OCPT-4

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

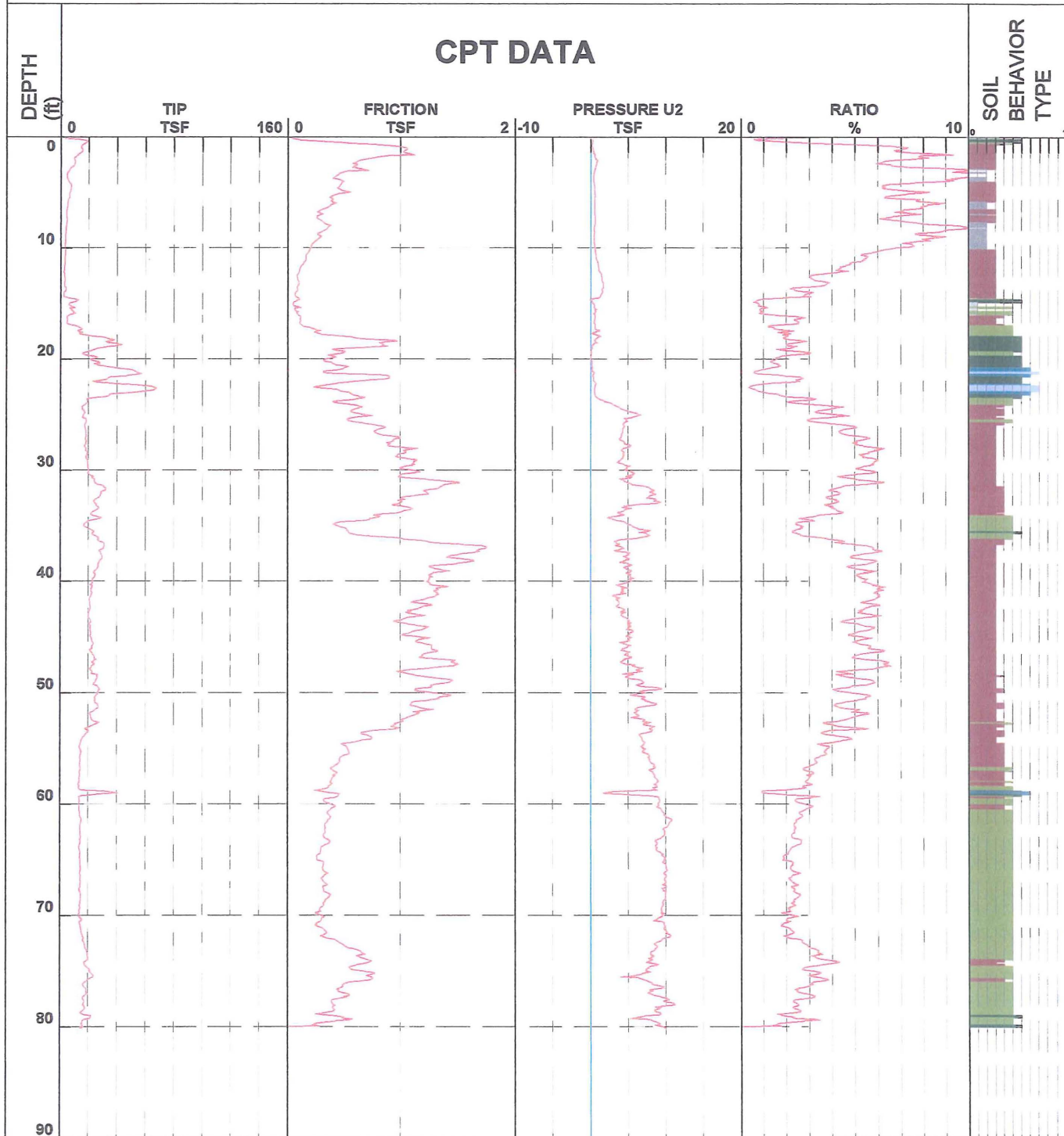
Date and T 03-Jun-2008 16:42:24

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Robertson et al. 1986 * Overconsolidated or Cemented



CPT Data

Job Number 04.1909-0001

CPT Number OCPT5

Location Gulfc0-Freeport-TX

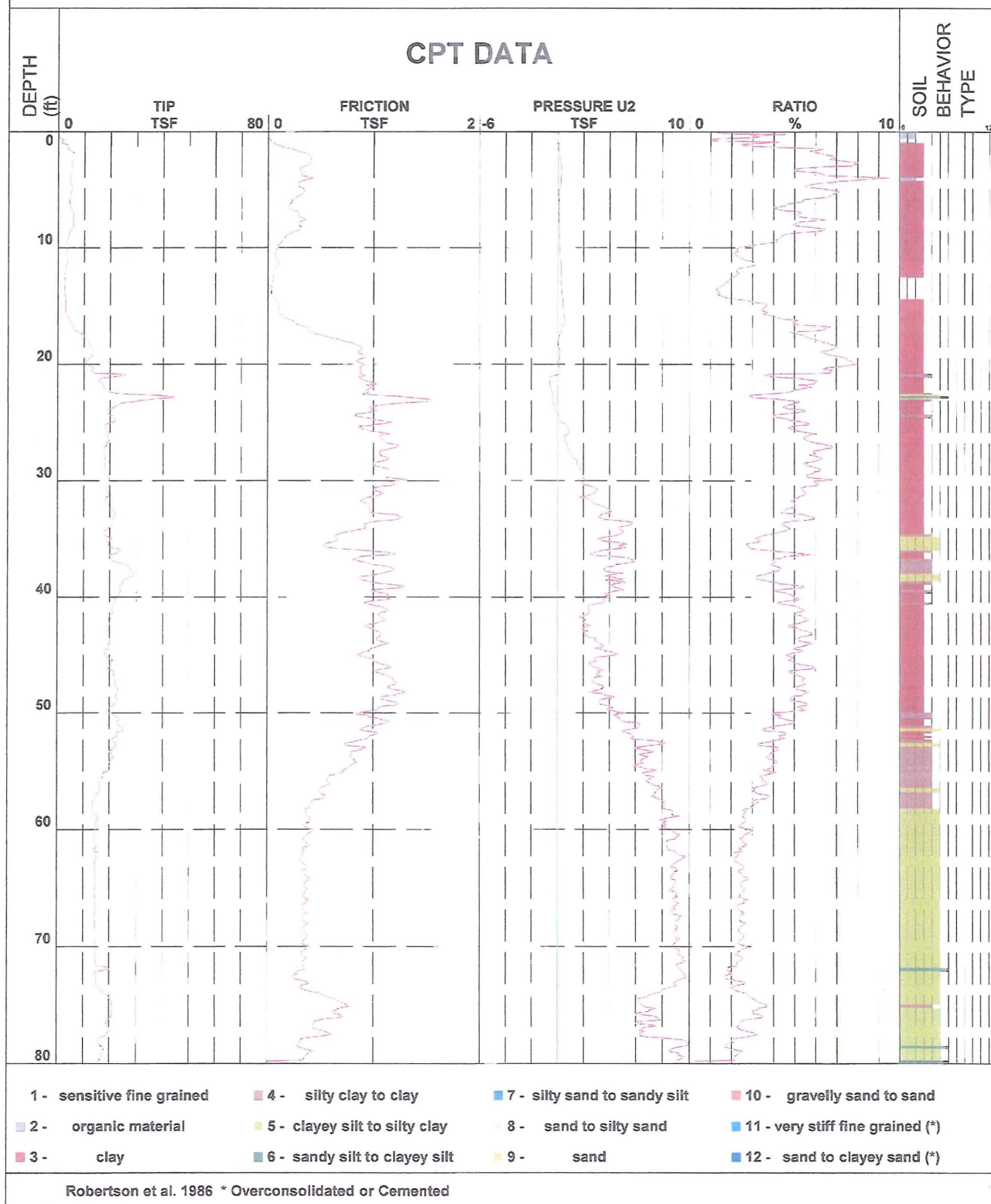
Operator Albert Fonseca

Date and Time 07-Jan-2009 10:20:32

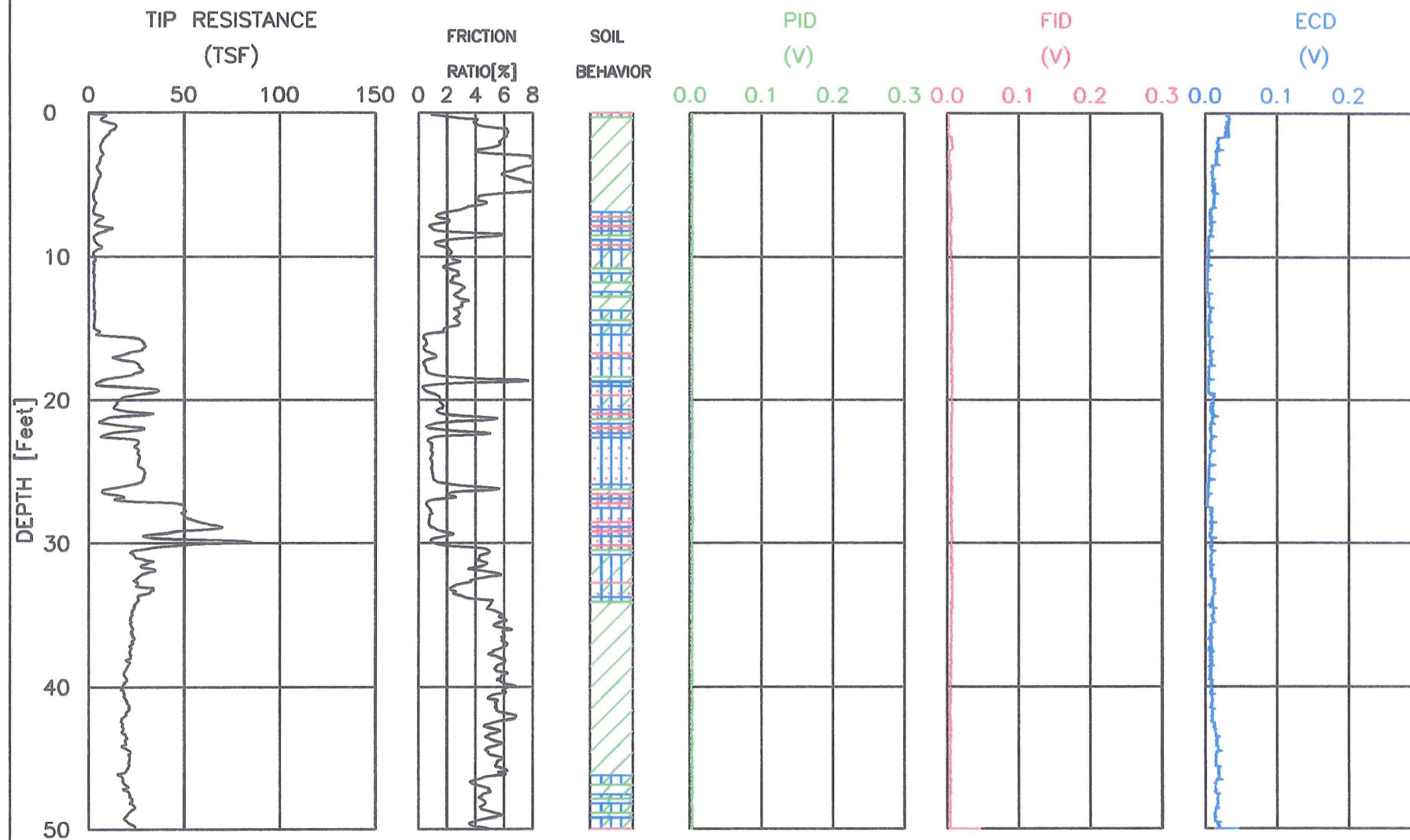
Cone Number F7.5CKEHW2/B0390

Client

Pastor, Behling & Wheeler, LLC



CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

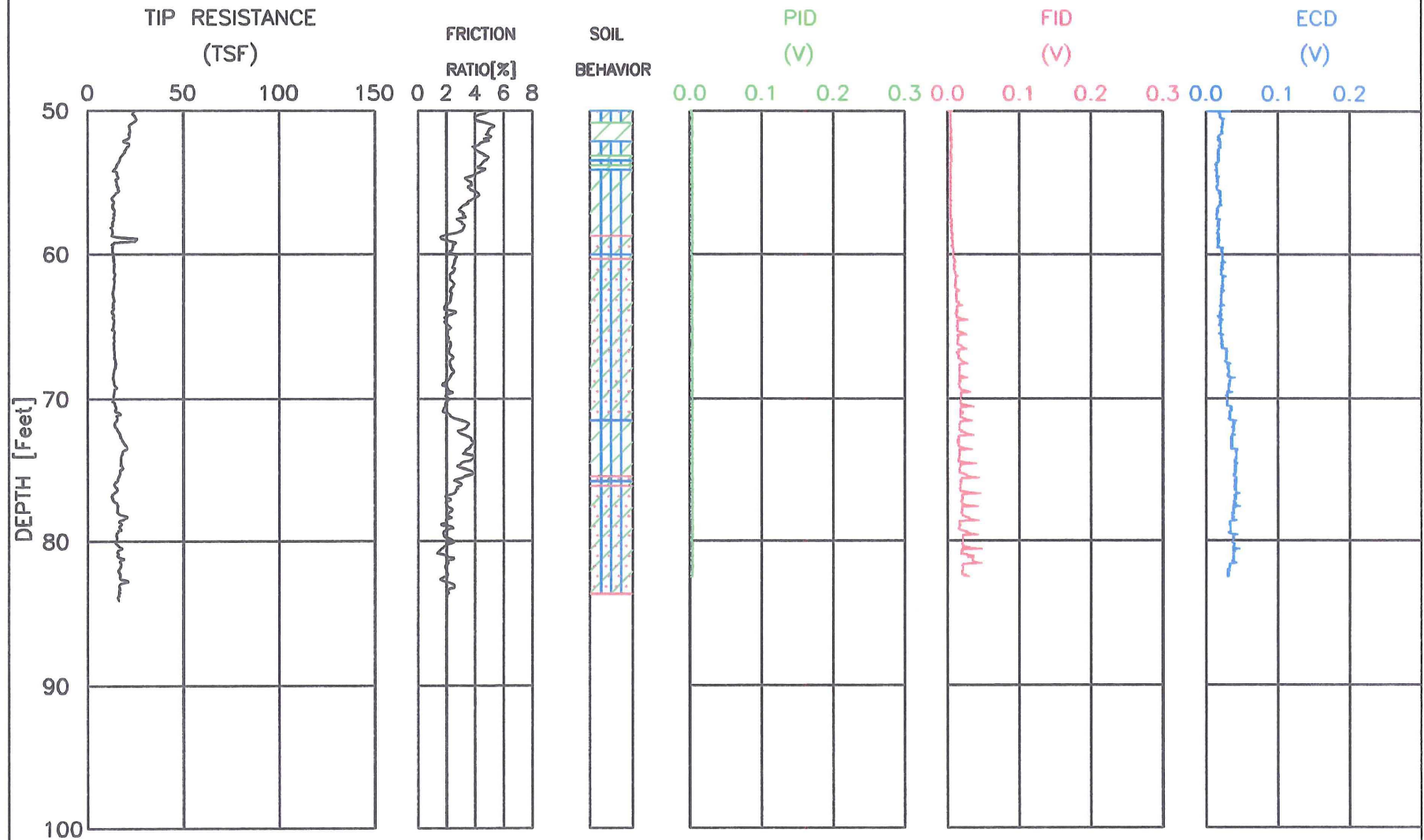
CPT NUMBER: NG3-CPT1

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

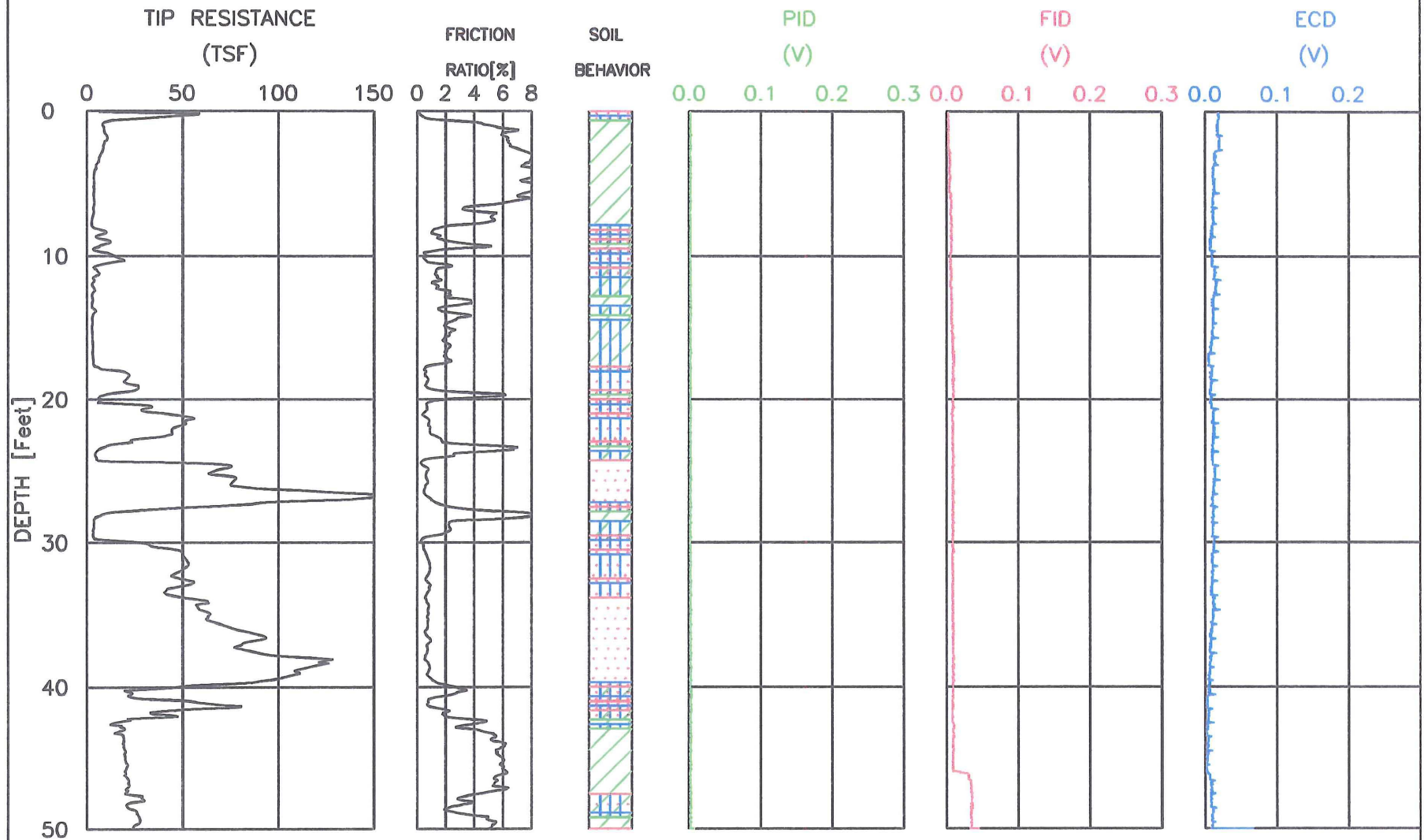
CPT NUMBER: NG3-CPT1

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

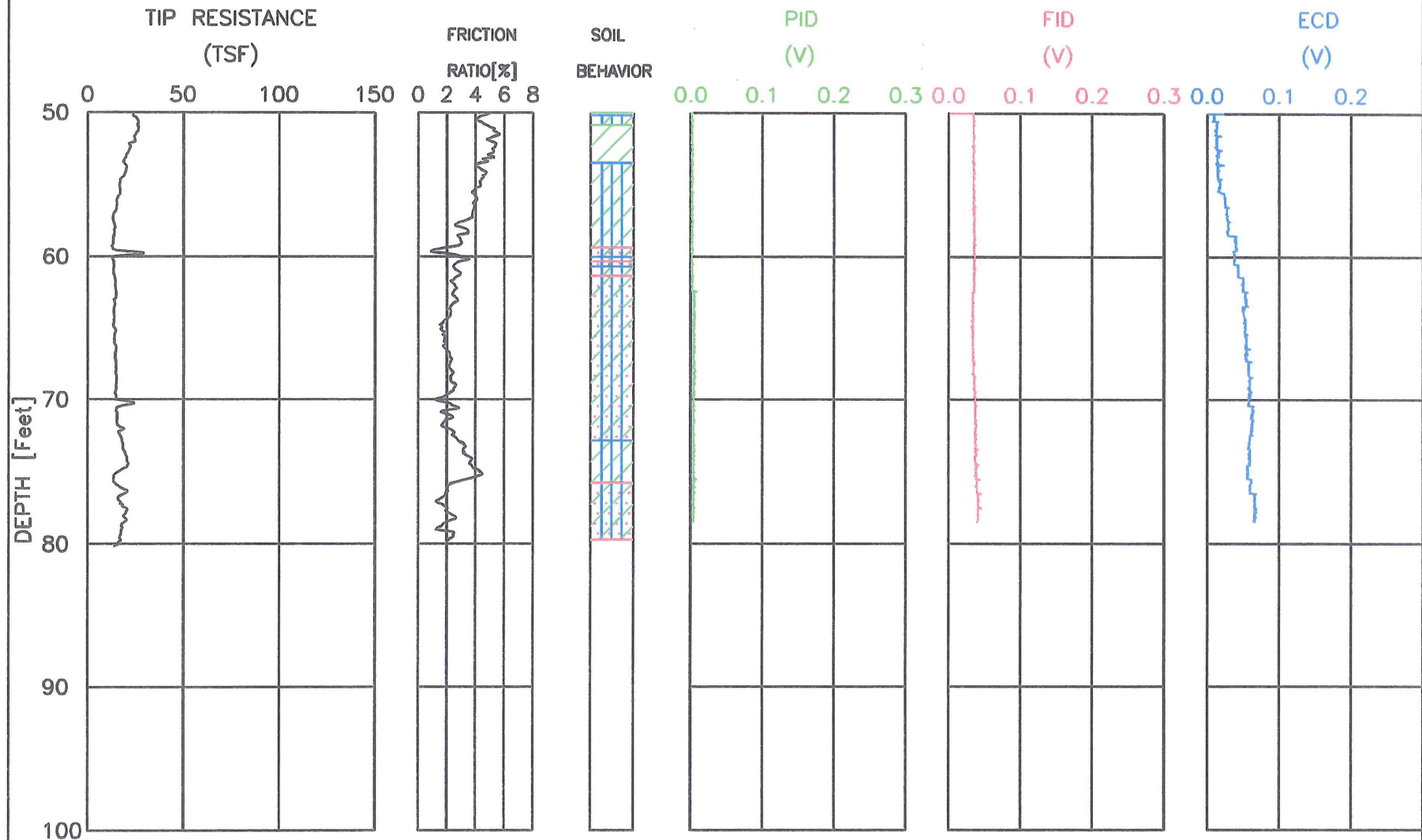
CPT NUMBER: NE4-CPT2

CONE NUMBER: A15F2.5CKEHW1636

DATE: 04-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

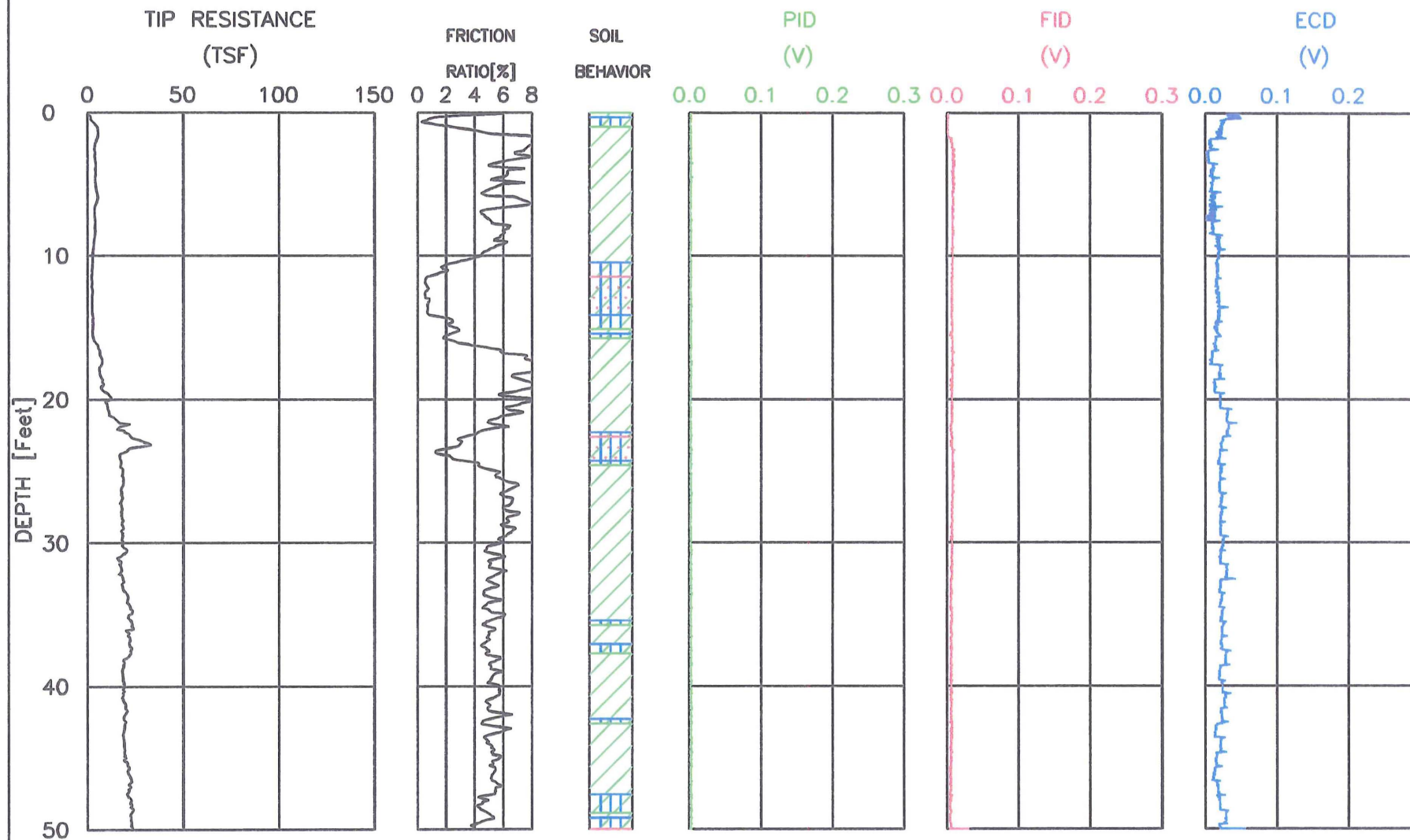
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CONE NUMBER: A15F2.5CKEHW1636

DATE: 04-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

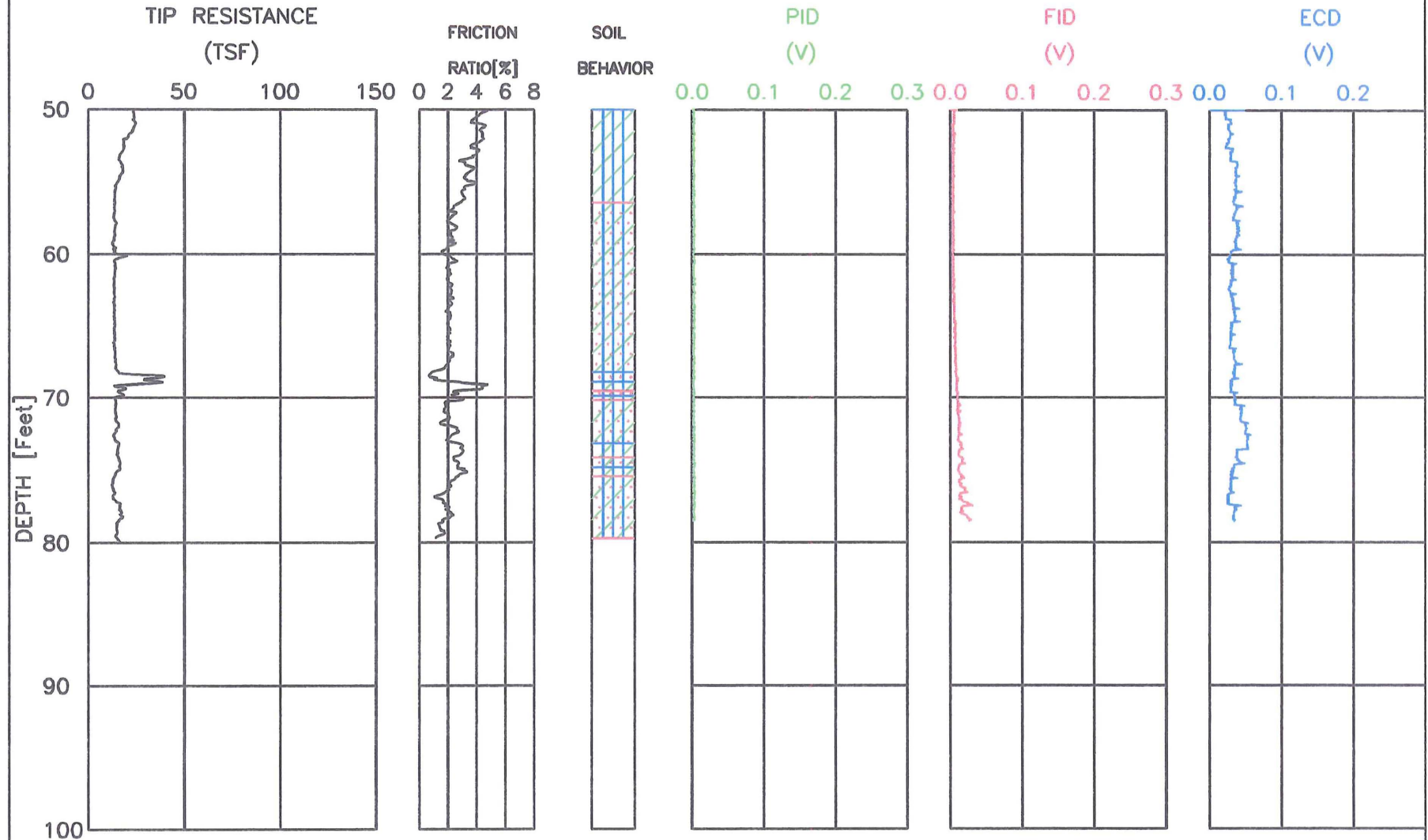
CPT NUMBER: NC2-CPT3

CONE NUMBER: A15F2.5CKEHW1636

DATE: 02-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

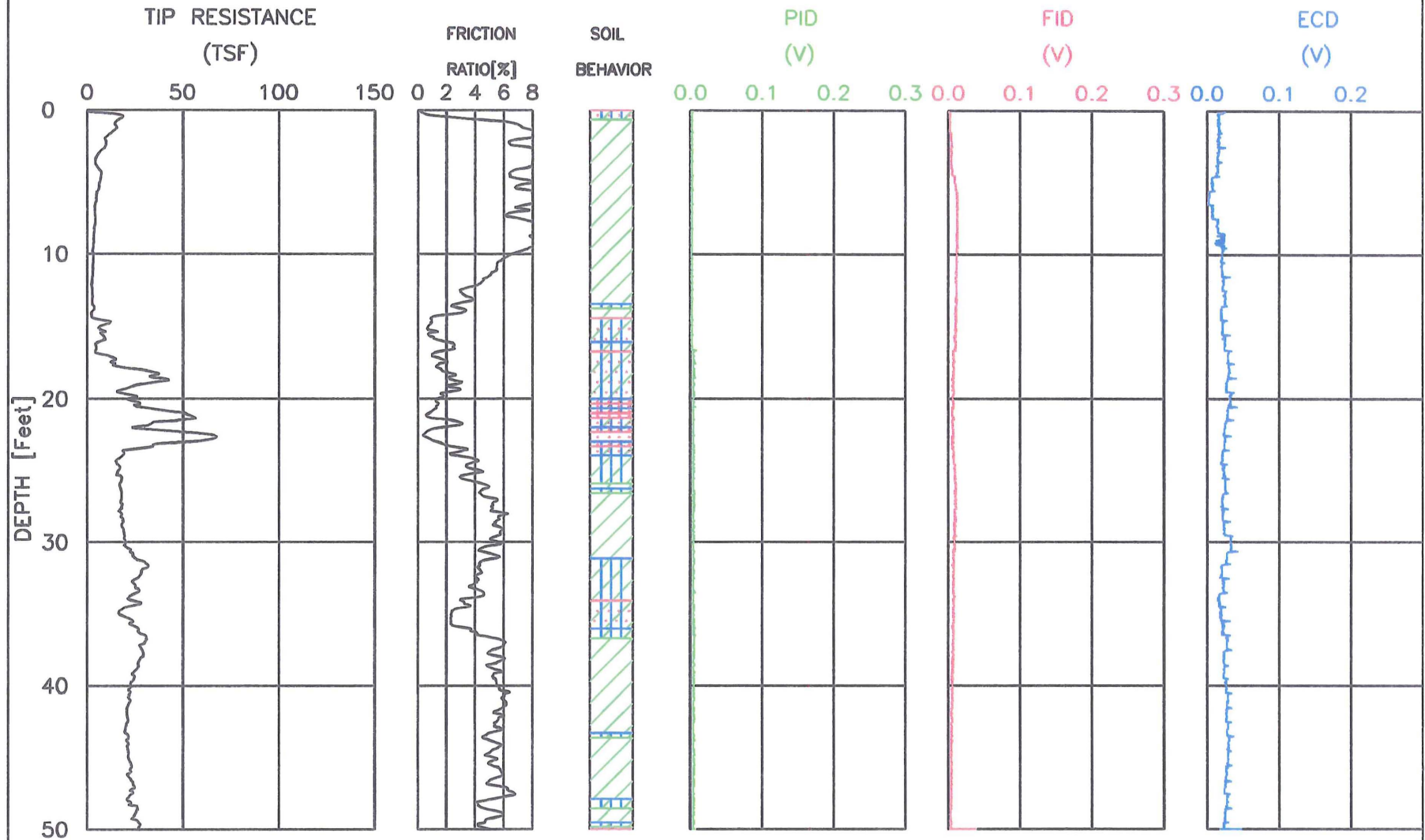
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CONE NUMBER: A15F2.5CKEHW1636

DATE: 02-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

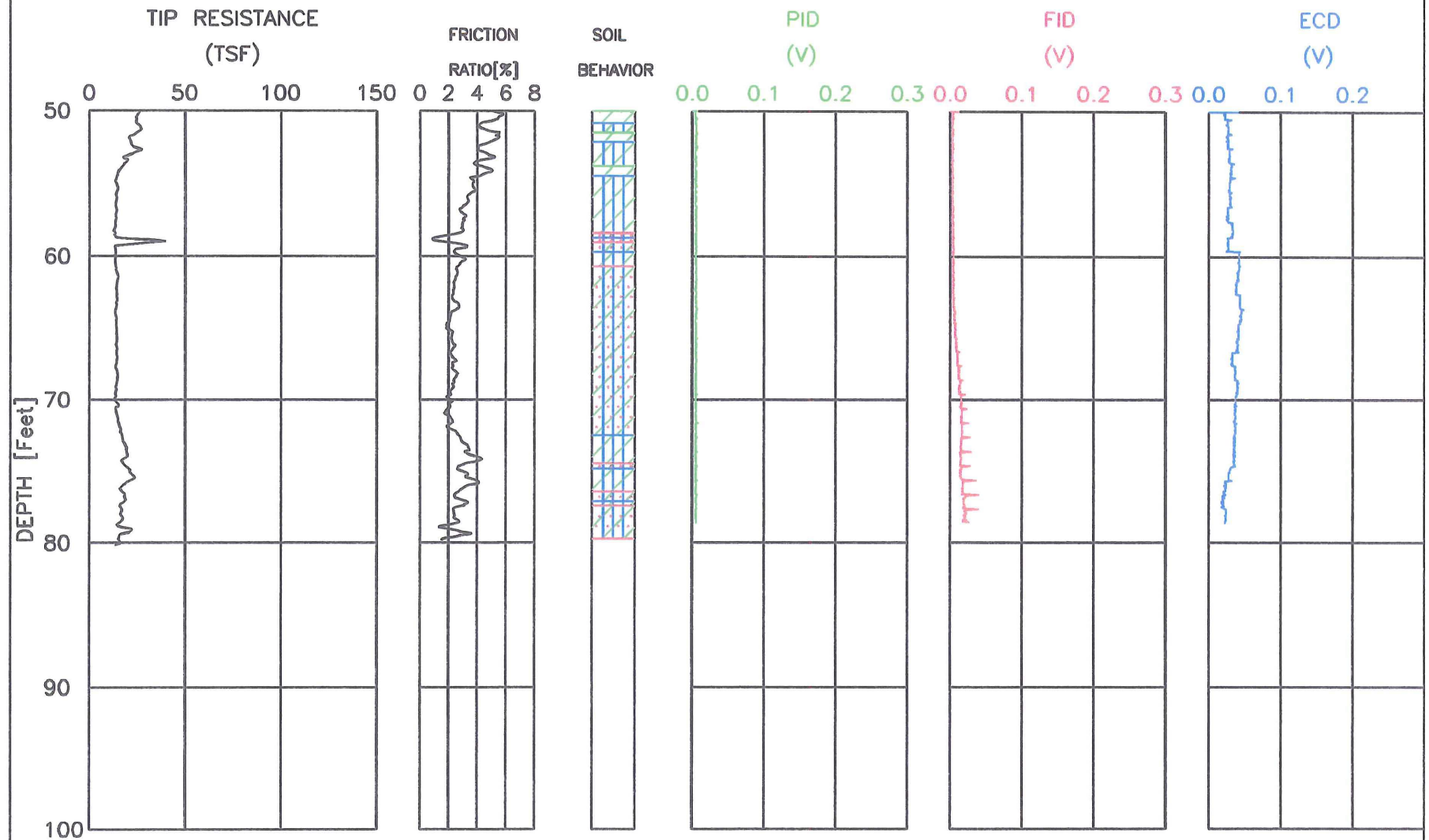
CPT NUMBER: OCPT-4

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

CPT NUMBER: OCPT-4

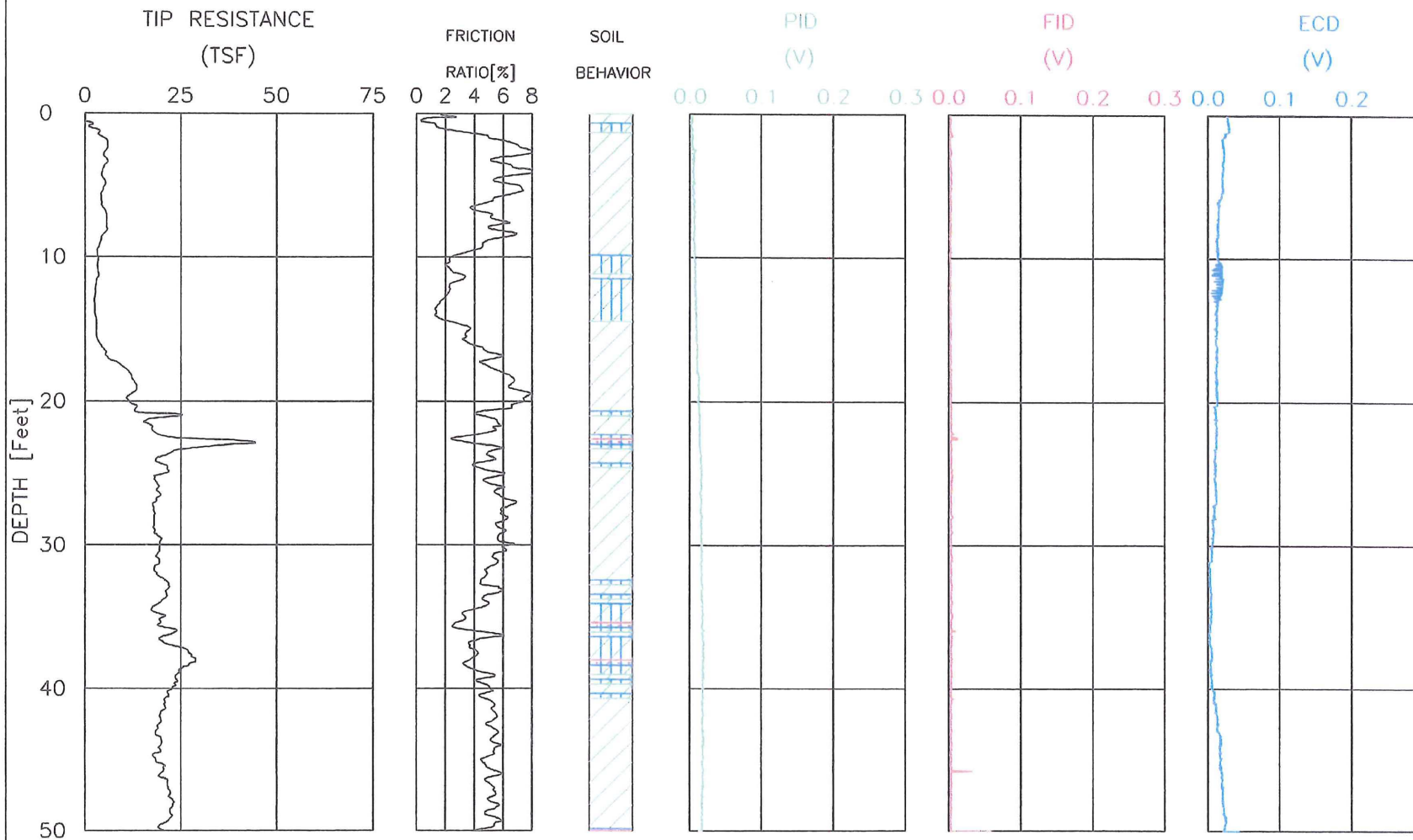
DATE: 03-Jun-2008

ELEVATION: 0.00

CONE NUMBER: A15F2.5CKEHW1636

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1909-0001

ELEVATION: 0.00

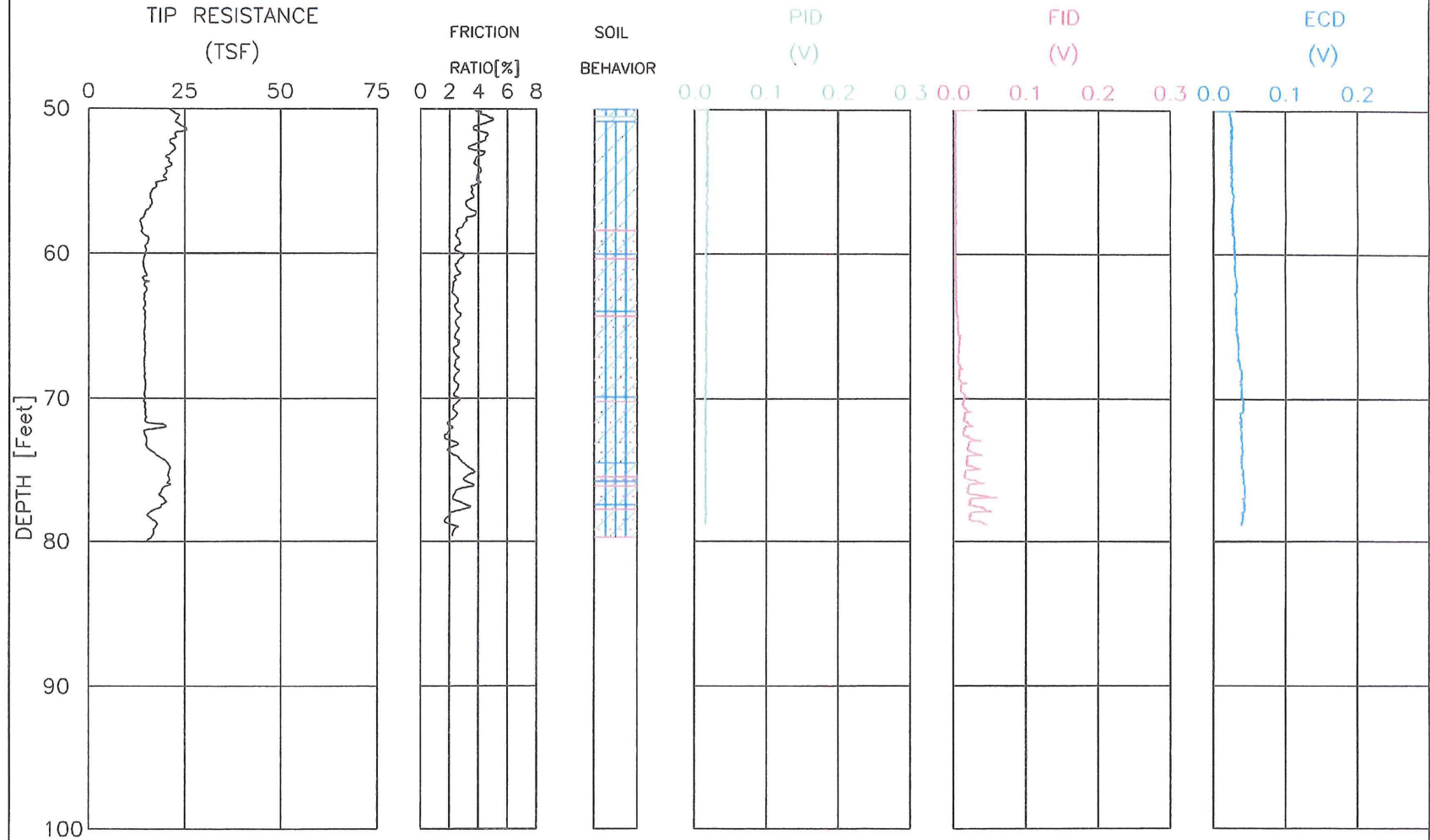
CPT NUMBER: OCPT5

CONE NUMBER: F7.5CKEHW2/B0390

DATE: 07-Jan-2009

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1909-0001

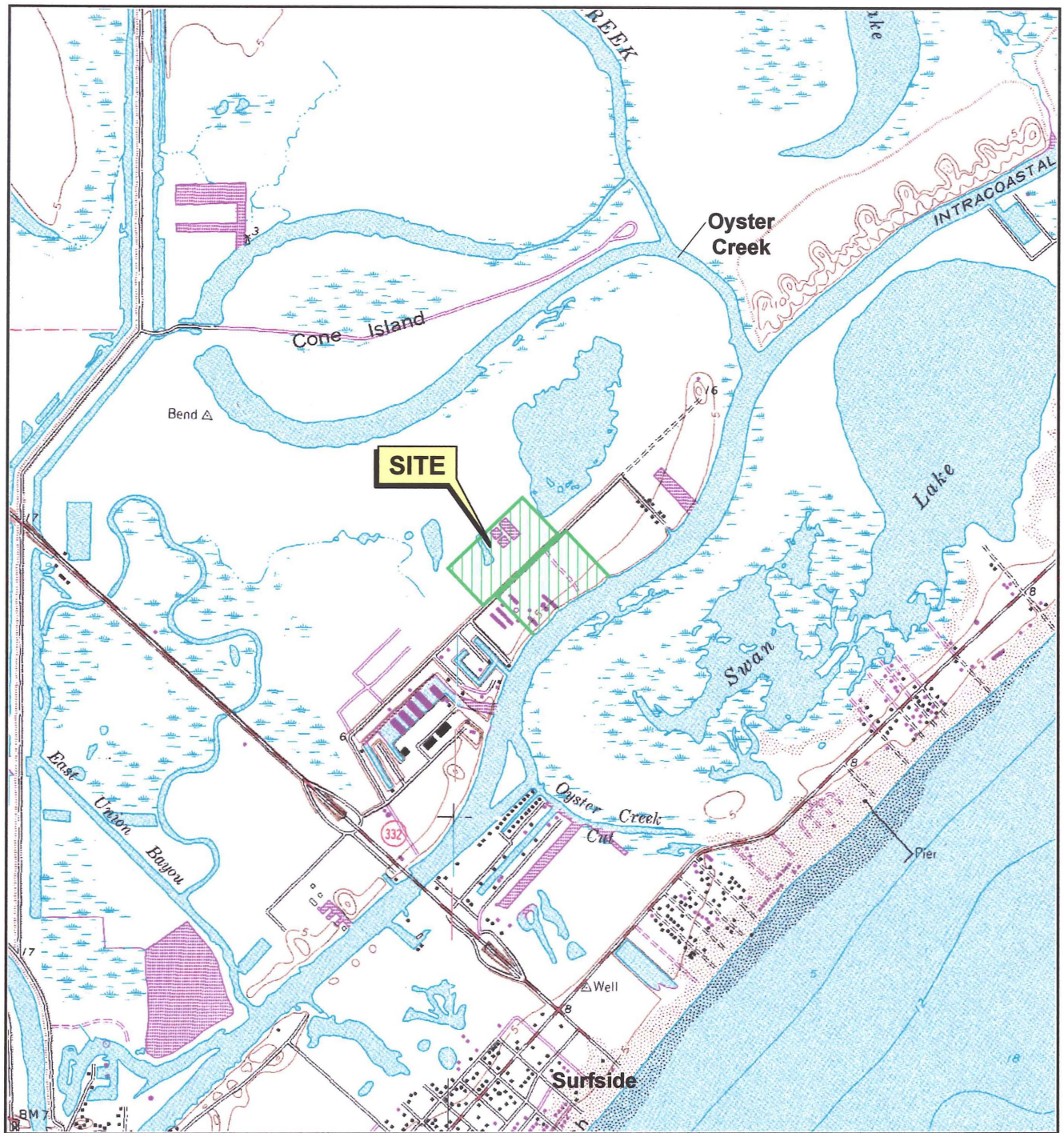
CPT NUMBER: OCPT5

DATE: 07-Jan-2009

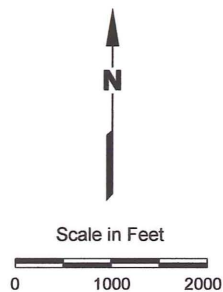
ELEVATION: 0.00

CONE NUMBER: F7.5CKEHW2/B0390

PLATE: 2 OF 2



QUADRANGLE LOCATION



GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 1
SITE LOCATION MAP

PROJECT: 1352

BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

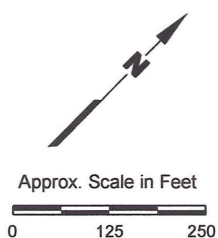
Source:

Base map taken from <http://www.tnris.state.tx.us> Freeport, Texas 7.5 min.
U.S.G.S. quadrangle, 1974.



EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- - Lot Boundary (approximate)



Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 2
SITE MAP

PROJECT: 1352

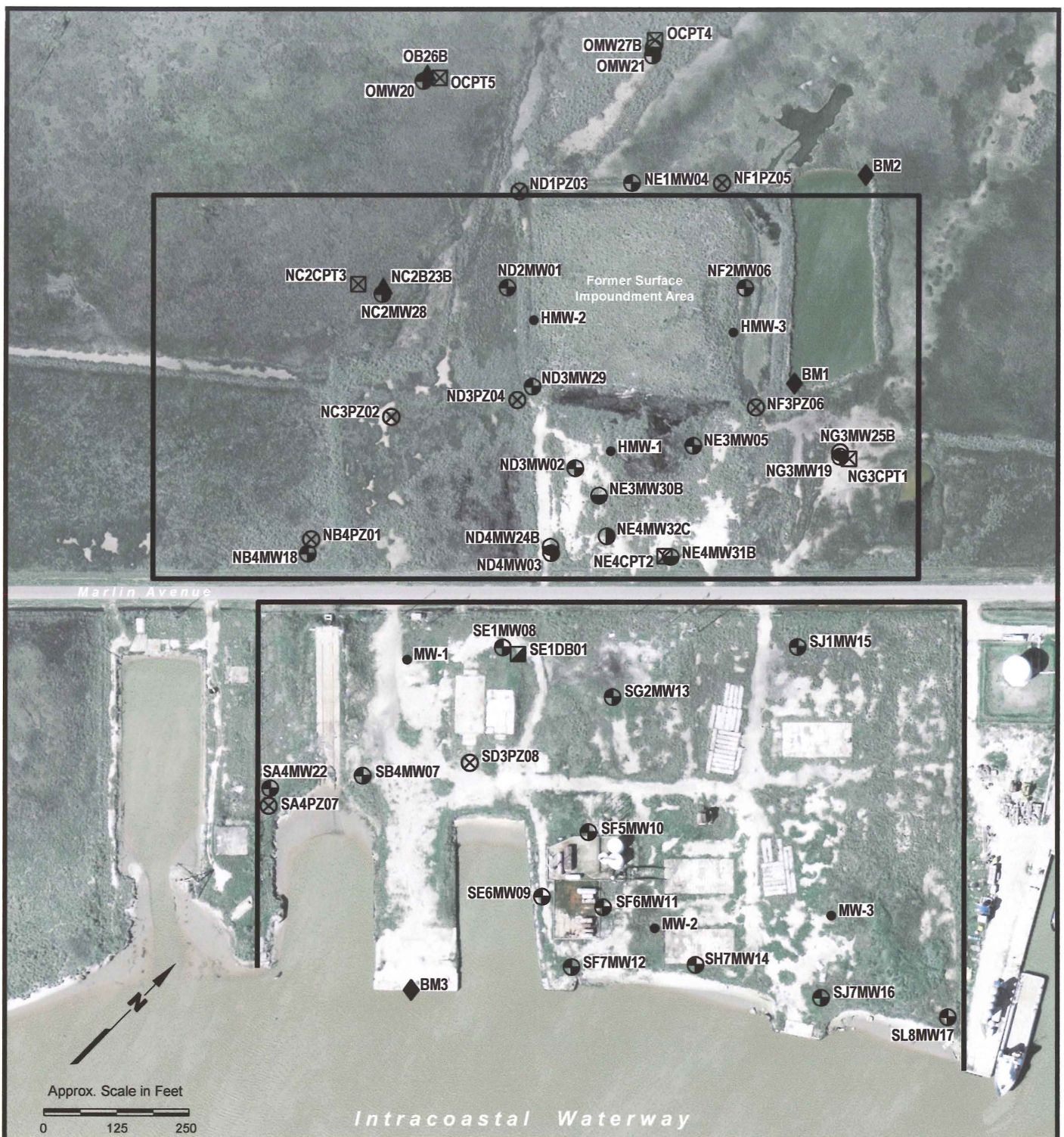
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- | | |
|---|-----------------------------------|
| Gulfco Marine Maintenance Site Boundary (approximate) | Monitoring Well Location - Zone B |
| Monitoring Well Location - Zone A | Soil Boring Location - Zone B |
| Temporary Piezometer - Zone A | Monitoring Well Location - Zone C |
| Staff Gauge | CPT Piezometer Location - Zone C |
| Previous Monitoring Well Location | Deep Soil Boring Location |

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 3

MONITORING WELL LOCATIONS

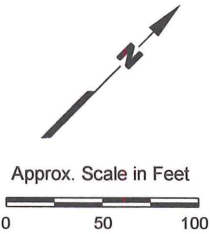
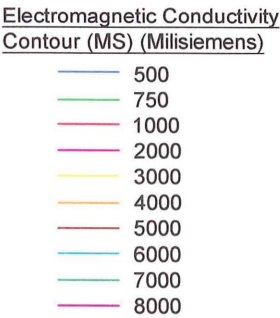
PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
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EXPLANATION

- T13E-W EM Survey Transect and ID
- Single RD Detection



GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 4
**EM SURVEY TRANSECTS
AND DATA**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

Source of photo: H-GAC, Texas aerial photograph, 2006.





EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Intracoastal Waterway Sediment Sample
- △ Intracoastal Waterway Surface Water Sample
- Attempted Intracoastal Waterway Sediment Sample
- Zone 1 Crab/Fish Tissue Sampling Zones



Approx. Scale in Feet

0 60 120

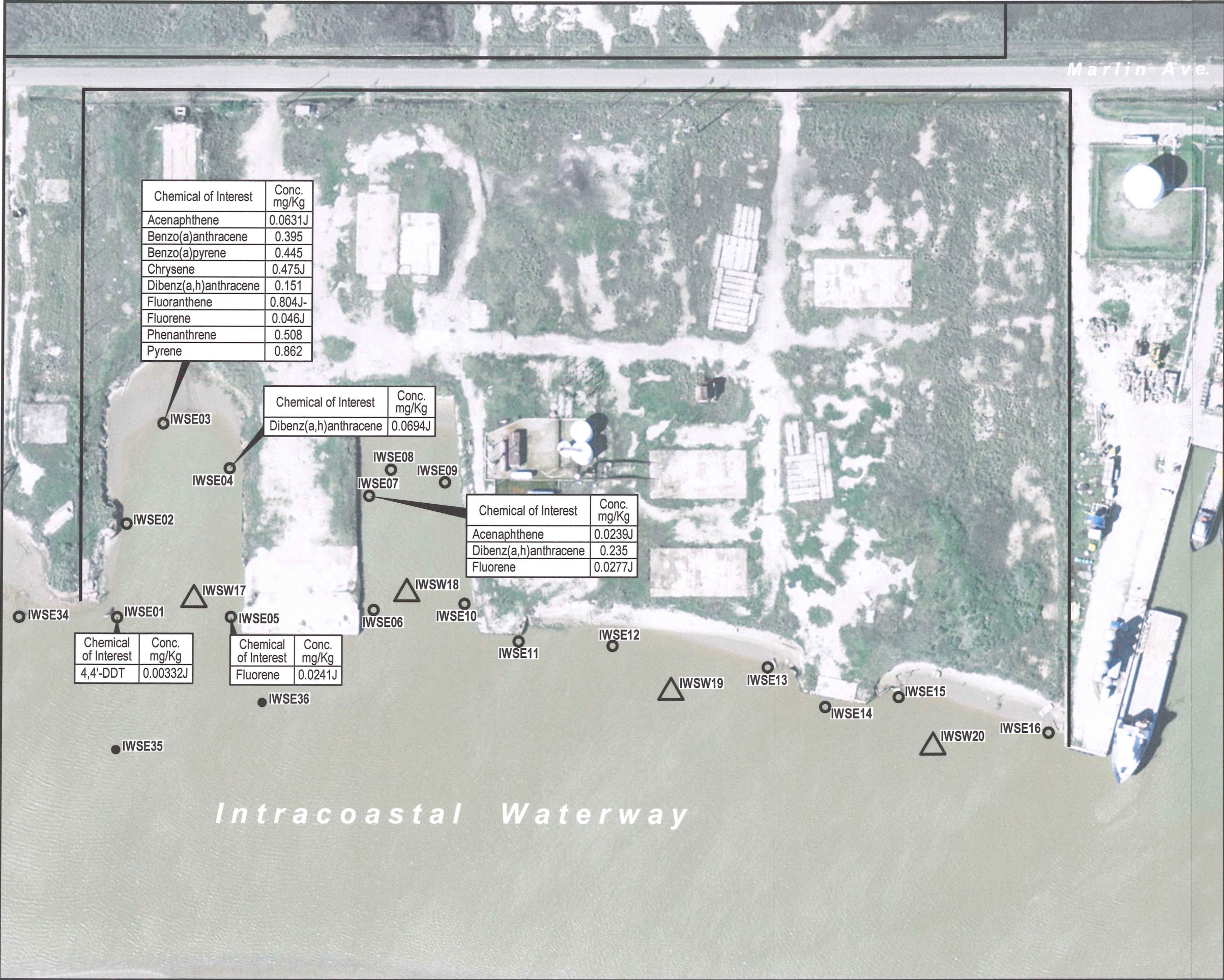
Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 6
INTRACOASTAL WATERWAY
SITE SAMPLE LOCATIONS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



Chemical of Interest	Conc. mg/Kg
Acenaphthene	0.0631J
Benzo(a)anthracene	0.395
Benzo(a)pyrene	0.445
Chrysene	0.475J
Dibenz(a,h)anthracene	0.151
Fluoranthene	0.804J-
Fluorene	0.046J
Phenanthrene	0.508
Pyrene	0.862

Chemical of Interest	Conc. mg/Kg
Dibenz(a,h)anthracene	0.0694J

Chemical of Interest	Conc. mg/Kg
Acenaphthene	0.0239J
Dibenz(a,h)anthracene	0.235
Fluorene	0.0277J

Chemical of Interest	Conc. mg/Kg
4,4'-DDT	0.00332J

Chemical of Interest	Conc. mg/Kg
Fluorene	0.0241J

EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Intracoastal Waterway Sediment Sample
- △ Intracoastal Waterway Surface Water Sample
- Attempted Intracoastal Waterway Sediment Sample

Note:
Data Qualifiers: J = Estimated value.
J- = Estimated value - biased low.



Approx. Scale in Feet
0 60 120

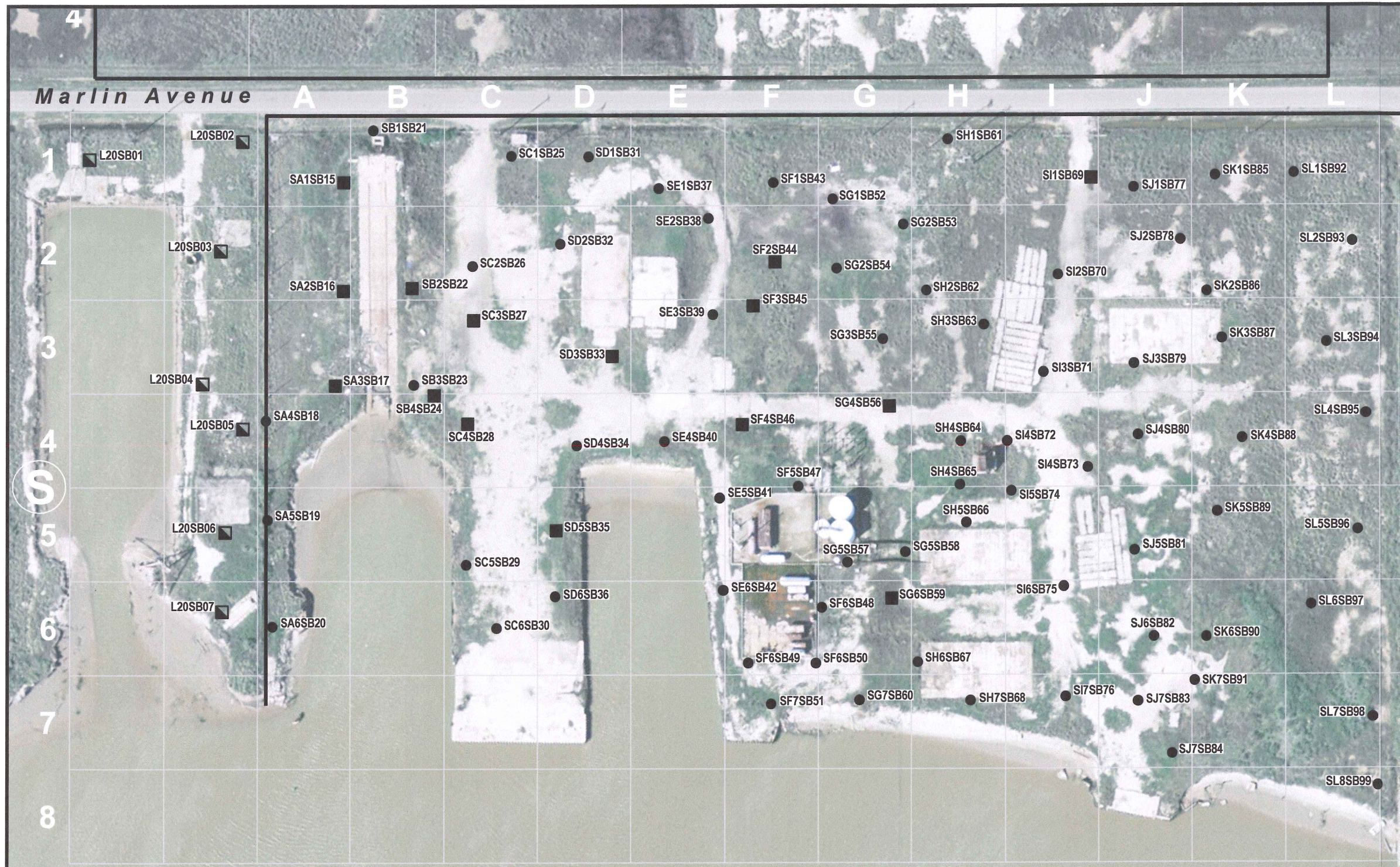
Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 7
DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES-
INTRACOASTAL WATERWAY
SEDIMENTS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

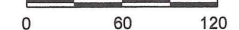


EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Shallow Soil Sample (0-2 ft)
- Shallow (0-2 ft) and Deep (4-5 ft) Soil Sample
- Lot 20 Soil Sample



Approx. Scale in Feet



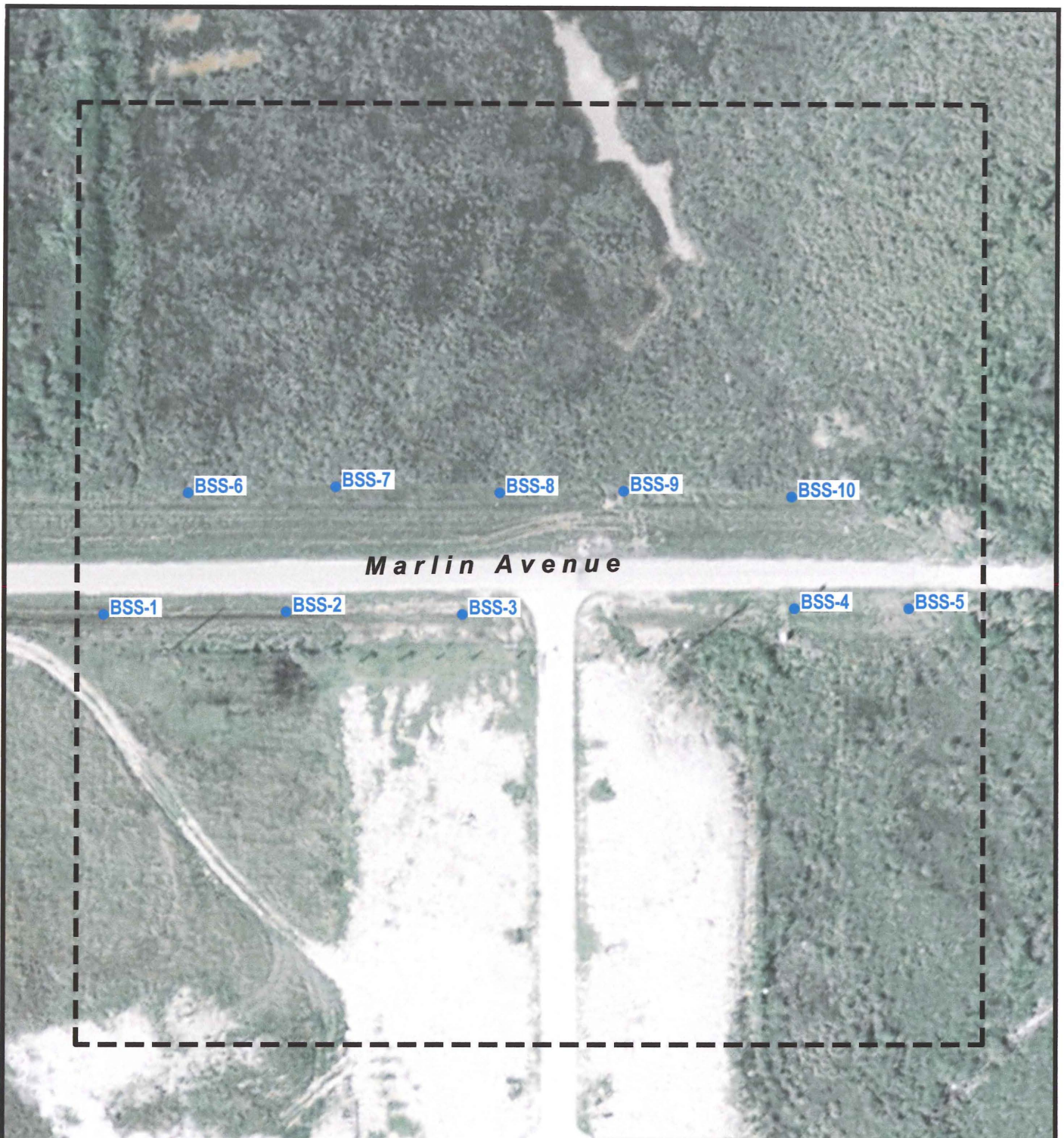
Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 8
SOUTH AREA
SOIL SAMPLE LOCATIONS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

--- Background Soil Area Boundary (per Figure 8 of Field Sampling Plan)

BSS-1 • Approximate Background Soil Sample Location

Note:
Background Area located approximately 2,000 feet east of Gulfco site.



Approx. Scale in Feet

0 40 80

Source of photo:
H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 9

BACKGROUND SOIL SAMPLE LOCATIONS

PROJECT: 1352

BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Shallow Soil Sample (0-2 ft)
- Shallow (0-2 ft) and Deep (4-5 ft) Soil Sample
- ▣ Lot 20 Soil Sample

Note:
Data Qualifiers: J = Estimated value.
J- = Estimated value - biased low.
J+ = Estimated value - biased high.



Approx. Scale in Feet

0 125

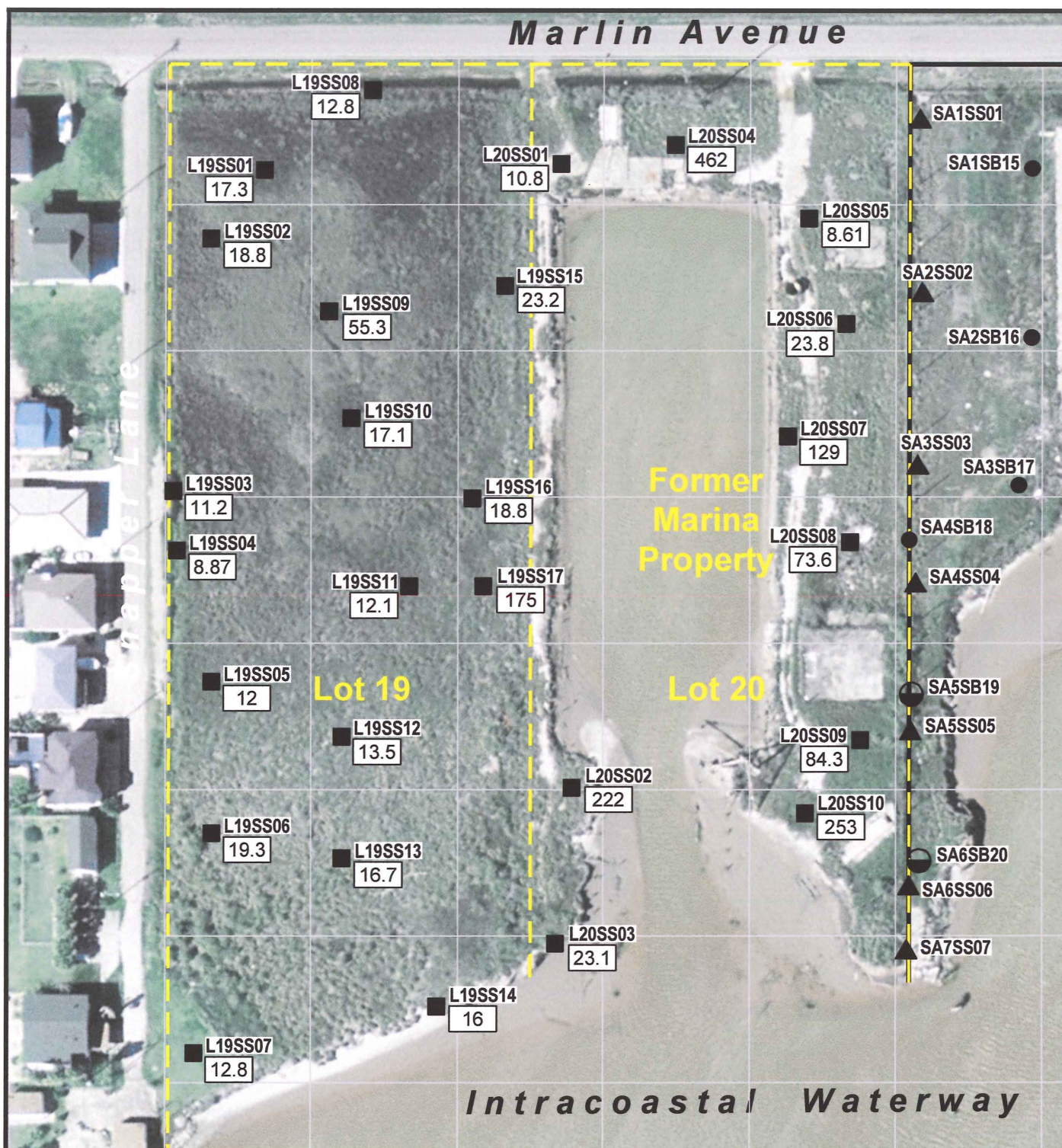
Source of photo: H-GAC, Texas aerial photograph, 2006.

**GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS**

Figure 10
**DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES-
SOUTH AREA PHASE 1
PERIMETER SOIL SAMPLES**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

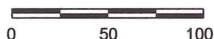


EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Parcel Boundary (approximate)
- Judgmental Soil Sample (0-2 ft)
- Random Systematic Soil Sample (0-2 ft)
- Lot 21 Surface Soil Sample (0-1 in)
- Lot 19/20 Surface Soil Sample (0-1 in)
- 12.8** Lead Concentration (mg/Kg)



Approx. Scale in Feet



Source of photo:
H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 11

LEAD CONCENTRATIONS IN LOT 19-20 SURFACE SOIL SAMPLES

PROJECT: 1352

BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Shallow (0-2 ft) Soil Sample
- ▲ Shallow (0-2 ft) and Deep (4+ ft) Soil Sample
- ⊠ Geotechnical Soil Boring

Notes:
1. Data Qualifiers: J = Estimated value.
J- = Estimated value, biased low.
2. BGS = below ground surface.

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
0-0.5	Iron	102,000
0-0.5	Lead	471

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
1.5-2.0	Benzo(a)pyrene	0.939

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
1-2	1,2,3-Trichloropropane	0.168
1-2	Trichloroethene	0.537
4-5	1,2,3-Trichloropropane	0.0472
4-5	Trichloroethene	0.29J

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
5-6	Aroclor-1254	6.35J

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
5-6	Arsenic	8.95

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
0-0.5	Benzo(a)pyrene	1.42J
0-0.5	Dibenzo(a,h)anthracene	0.404J-

Depth (ft BGS)	Chemical of Interest	Conc. (mg/Kg)
3-4	Iron	128,000
3-4	Lead	630



Approx. Scale in Feet

0 60 120

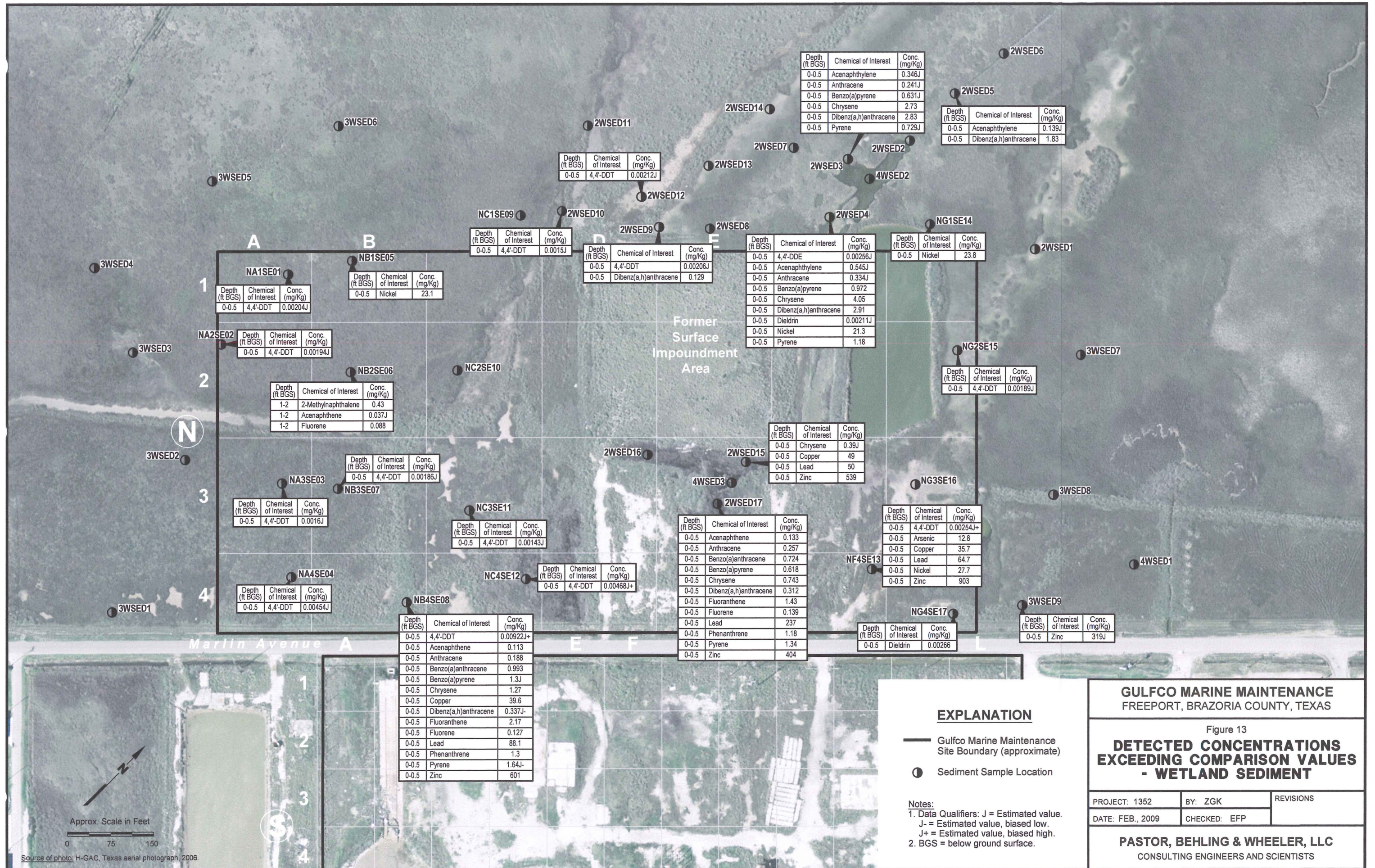
Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 12
**DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES
- NORTH AREA SOIL SAMPLES**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Wetland Surface Water Sample Location

Note:
Data Qualifier: J = Estimated value.



Approx. Scale in Feet

0 60 120

Source of photo: H-GAC, Texas aerial photograph, 2006.

**GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS**

Figure 14
**DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES
- WETLAND SURFACE WATER**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Pond Sediment Sample Location

Notes:
1. All samples from 0-0.5 ft depth interval.
2. Data Qualifier: J = Estimated value.



Approx. Scale in Feet

0 60 120

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 15
**DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES
- PONDS SEDIMENT**

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Chemical of Interest	Conc. (mg/L)
Total Arsenic	0.013J
Total Thallium	0.0077J
Dissolved Silver	0.0027J

Chemical of Interest	Conc. (mg/L)
Total Arsenic	0.012J
Dissolved Silver	0.0021J

Chemical of Interest	Conc. (mg/L)
Total Thallium	0.0062J
Dissolved Silver	0.0029J

Chemical of Interest	Conc. (mg/L)
Dissolved Manganese	1.44
Total Manganese	0.89
Total Thallium	0.0032J
Dissolved Silver	0.00094J

Chemical of Interest	Conc. (mg/L)
Dissolved Manganese	0.82
Total Manganese	0.74
Dissolved Thallium	0.0019J
Dissolved Silver	0.0014J

Chemical of Interest	Conc. (mg/L)
Dissolved Manganese	1.29
Total Manganese	1.06
Dissolved Thallium	0.0014J
Dissolved Silver	0.00095J

EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Pond Surface Water Sample Location

Note:
Data Qualifier: J = Estimated value.



Approx. Scale in Feet

0 60 120

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE
FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 16
**DETECTED CONCENTRATIONS
EXCEEDING COMPARISON VALUES
- PONDS SURFACE WATER**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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Source of photo: H-GAC, Texas aerial photograph, 2006.

EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- (1.69) Water-Level Elevation (Ft AMSL) Measured 10/05/06
- * Elevation Not Used in Contouring
- 1.5- Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft
- Monitoring Well Location Zone A
- Previous Monitoring Well Location
- ◆ Staff Gauge

Note:
Previous monitoring well and staff gauge measurements included for reference only and not used to construct potentiometric surface contours.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 17

ZONE A POTENTIOMETRIC SURFACE OCTOBER 5, 2006

PROJECT: 1352

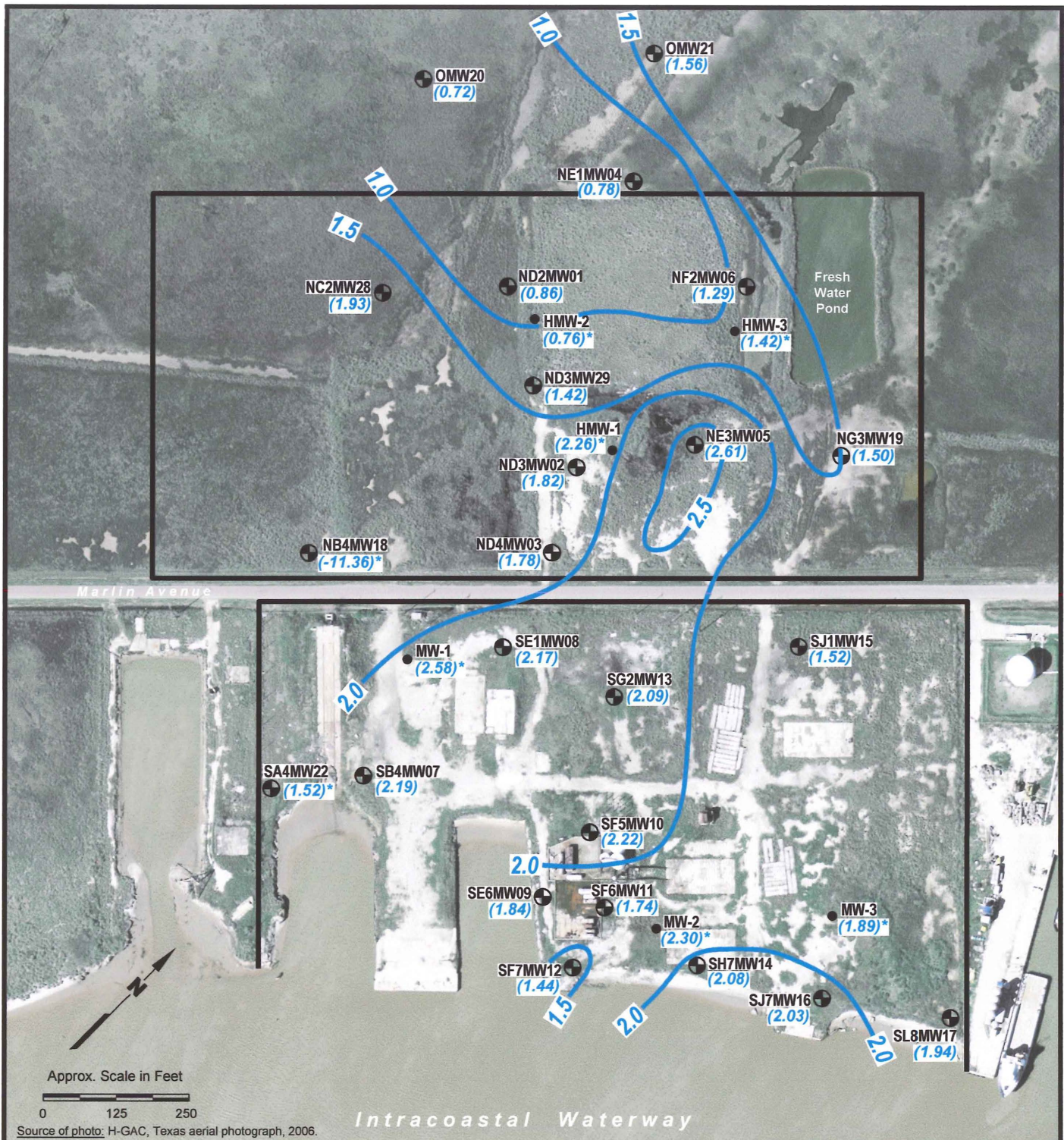
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- * Elevation Not Used in Contouring
- (1.44) Water-Level Elevation (Ft AMSL) Measured 06/06/07
- 1.5- Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft
- ⊕ Monitoring Well Location Zone A
- Previous Monitoring Well Location

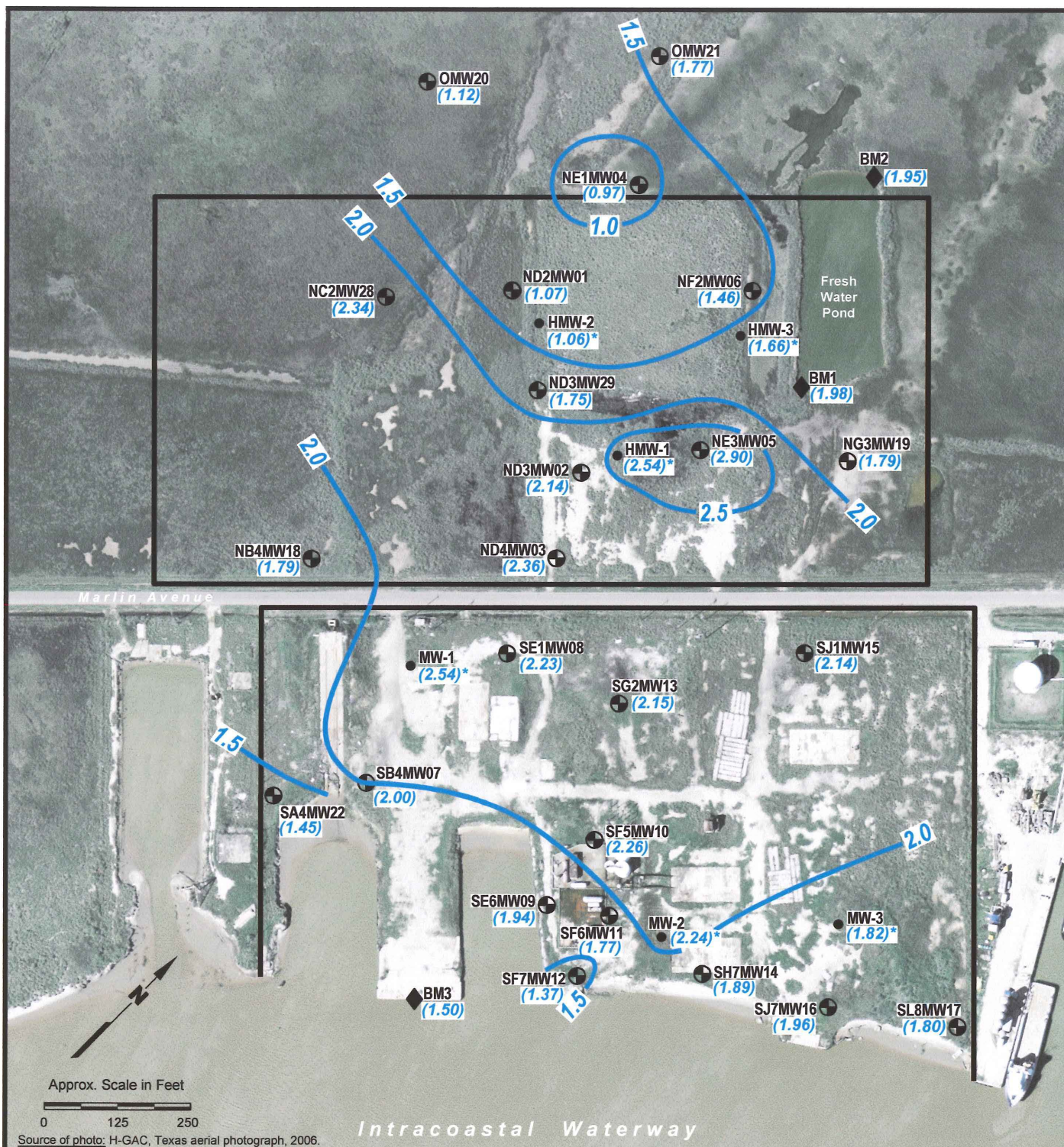
Notes:
 Previous monitoring well measurements included for reference only and not used to construct potentiometric surface contours. Water-level elevation at NB4MW18 not used in contour due to insufficient recovery time from sampling. Staff gauge measurements not measured on this date.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 18 ZONE A POTENTIOMETRIC SURFACE JUNE 6, 2007

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DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- ⊕ Monitoring Well Location Zone A
- Previous Monitoring Well Location
- ◆ Staff Gauge
- (1.37) Water-Level Elevation (Ft AMSL) Measured 09/06/07
- * Elevation Not Used in Contouring
- 2.0- Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft

Note:
Previous monitoring well and staff gauge measurements included for reference only and not used to construct potentiometric surface contours.

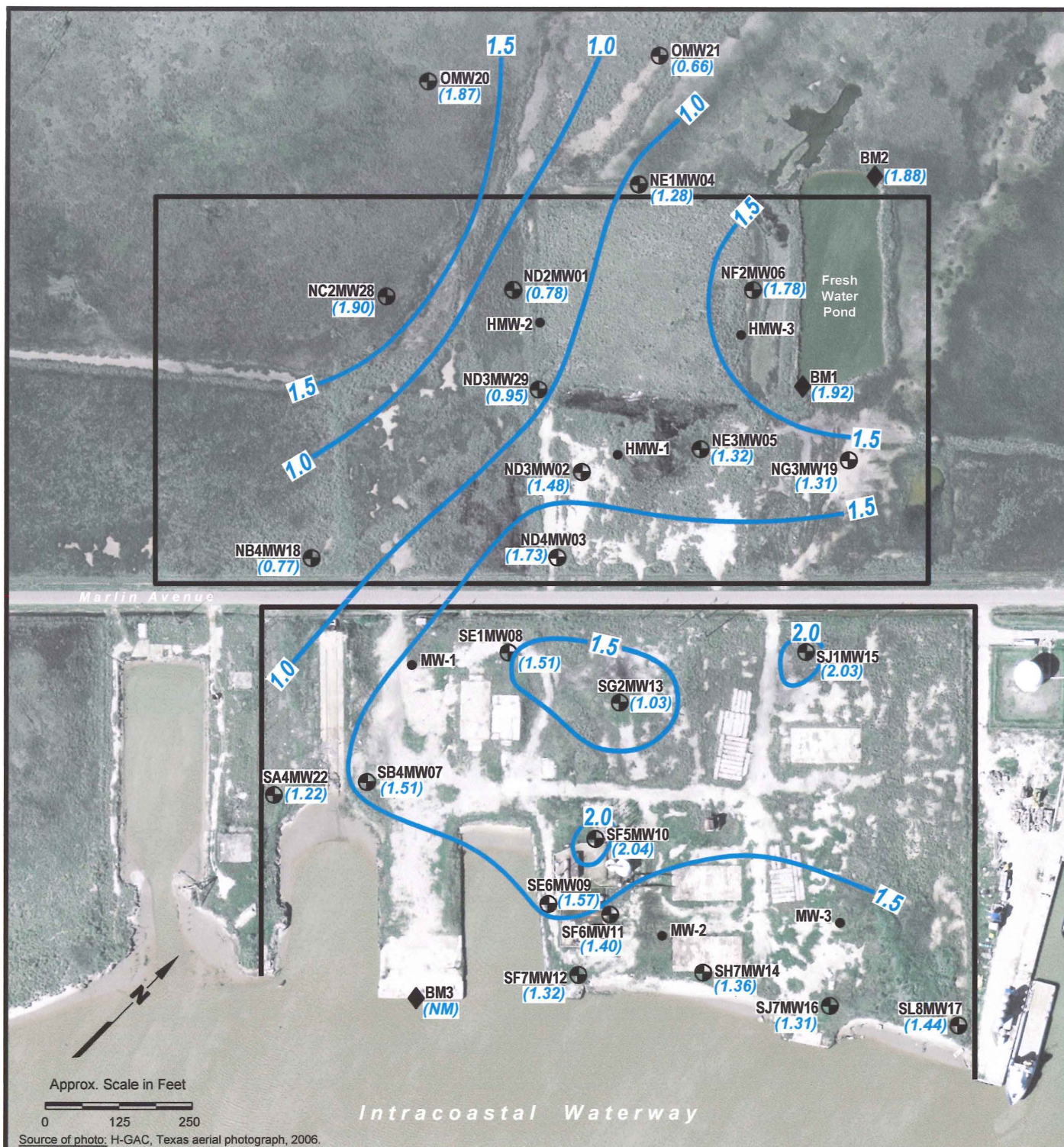
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 19

ZONE A POTENTIOMETRIC SURFACE SEPTEMBER 6, 2007

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- | | | |
|---|--------|--|
| — Gulfco Marine Maintenance Site Boundary (approximate) | (1.32) | Water-Level Elevation (Ft AMSL) Measured 11/07/07 |
| ⊕ Monitoring Well Location Zone A | (NM) | Not Measured |
| ● Previous Monitoring Well Location | —1.5— | Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft |
| ◆ Staff Gauge | | |

Note:
Staff gauge measurements included for reference only and not used to construct potentiometric surface contours.

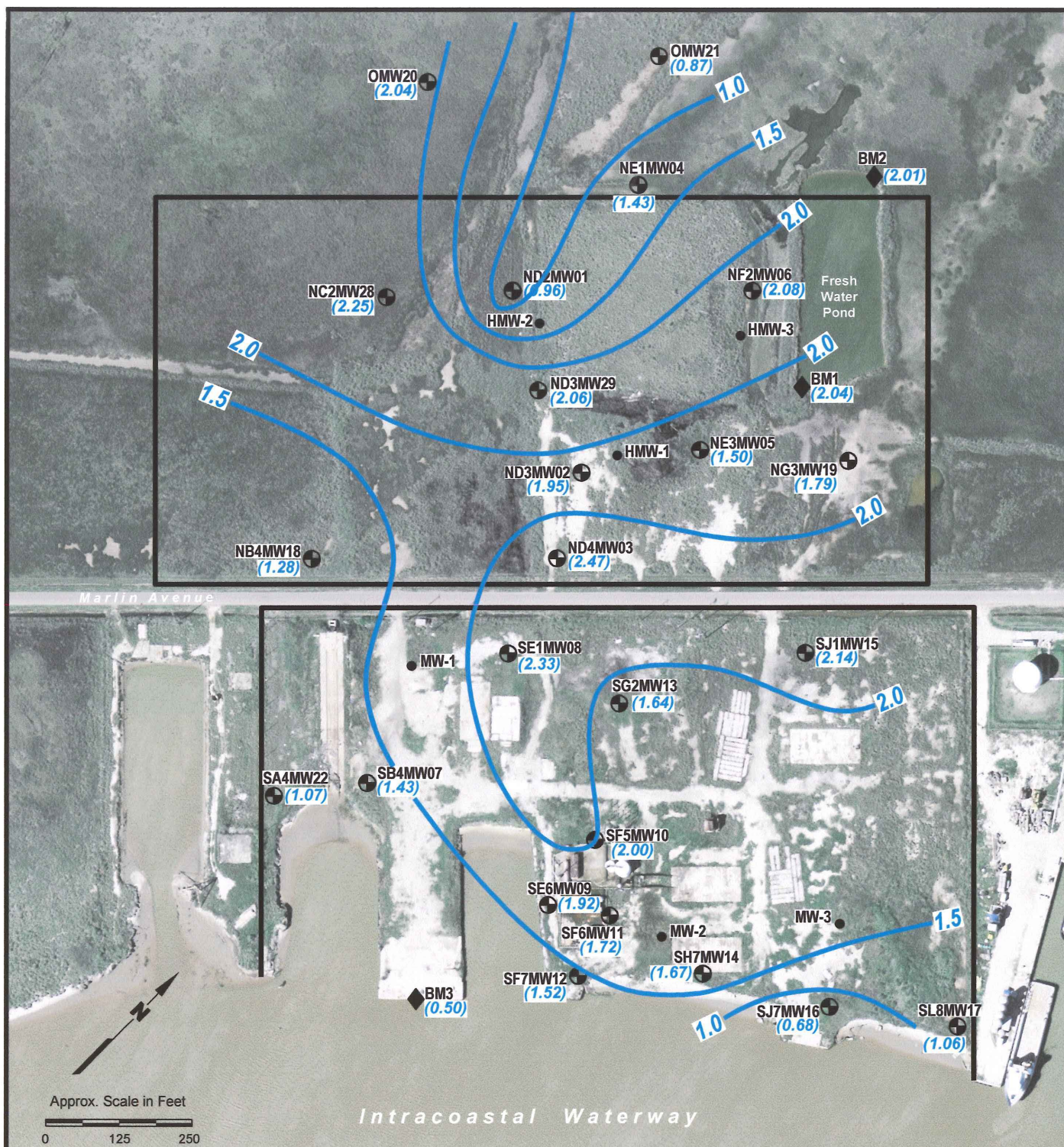
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 20

ZONE A POTENTIOMETRIC SURFACE NOVEMBER 7, 2007

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location Zone A
- Previous Monitoring Well Location
- Staff Gauge
- (1.52) Water-Level Elevation (Ft AMSL) Measured 12/03/07
- 1.5- Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft

Note:
Staff gauge measurements included for reference only and not used to construct potentiometric surface contours.

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 21

ZONE A POTENTIOMETRIC SURFACE DECEMBER 3, 2007

PROJECT: 1352

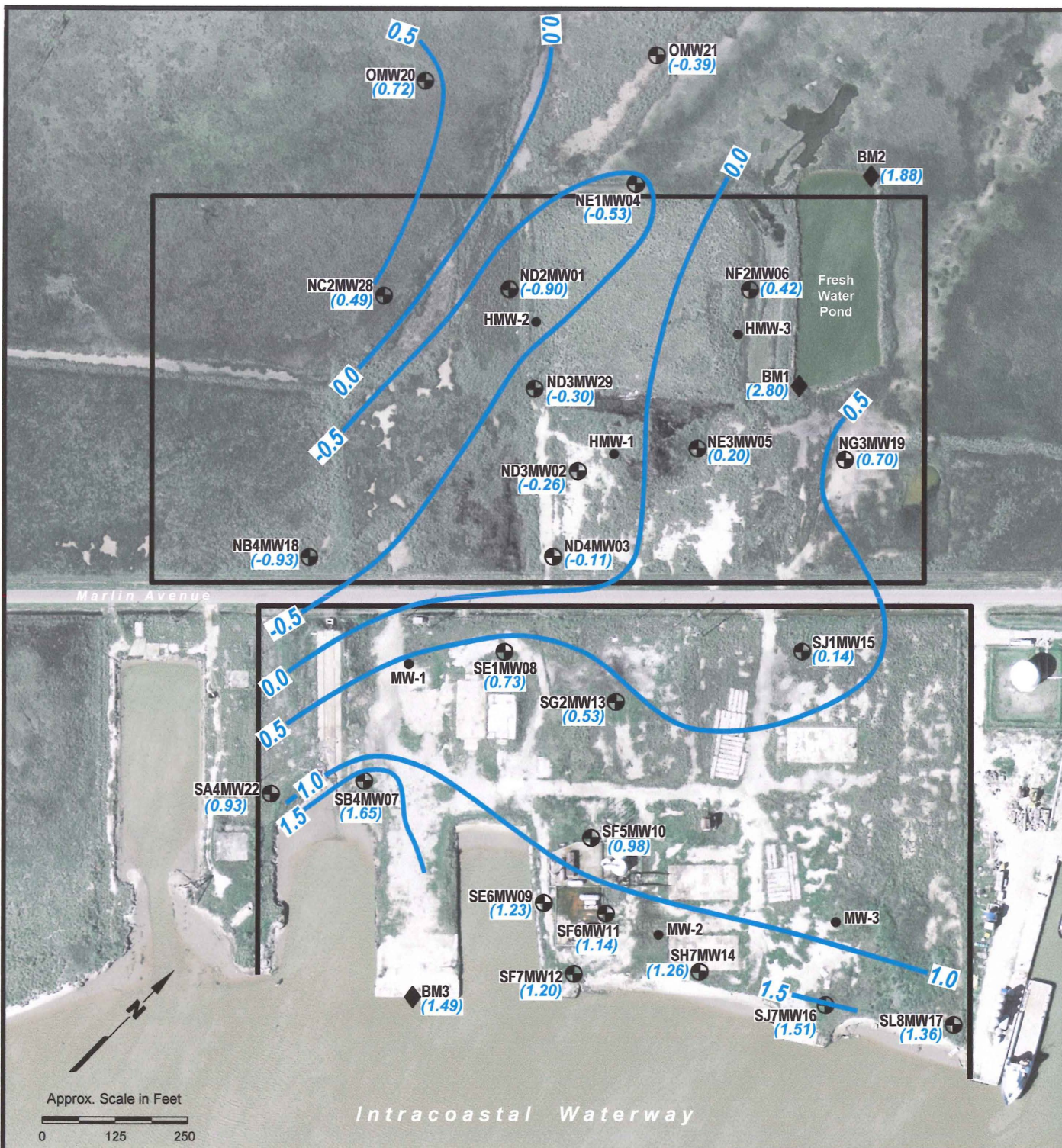
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- | | |
|---|--|
| — Gulfco Marine Maintenance Site Boundary (approximate) | ◆ Staff Gauge |
| ⊕ Monitoring Well Location Zone A | (1.52) Water-Level Elevation (Ft AMSL) Measured 06/17/08 |
| ● Previous Monitoring Well Location | —1.5— Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.5 Ft |

Note:
Staff gauge measurements included for reference only and not used to construct potentiometric surface contours.

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 22 ZONE A POTENTIOMETRIC SURFACE JUNE 17, 2008

PROJECT: 1352

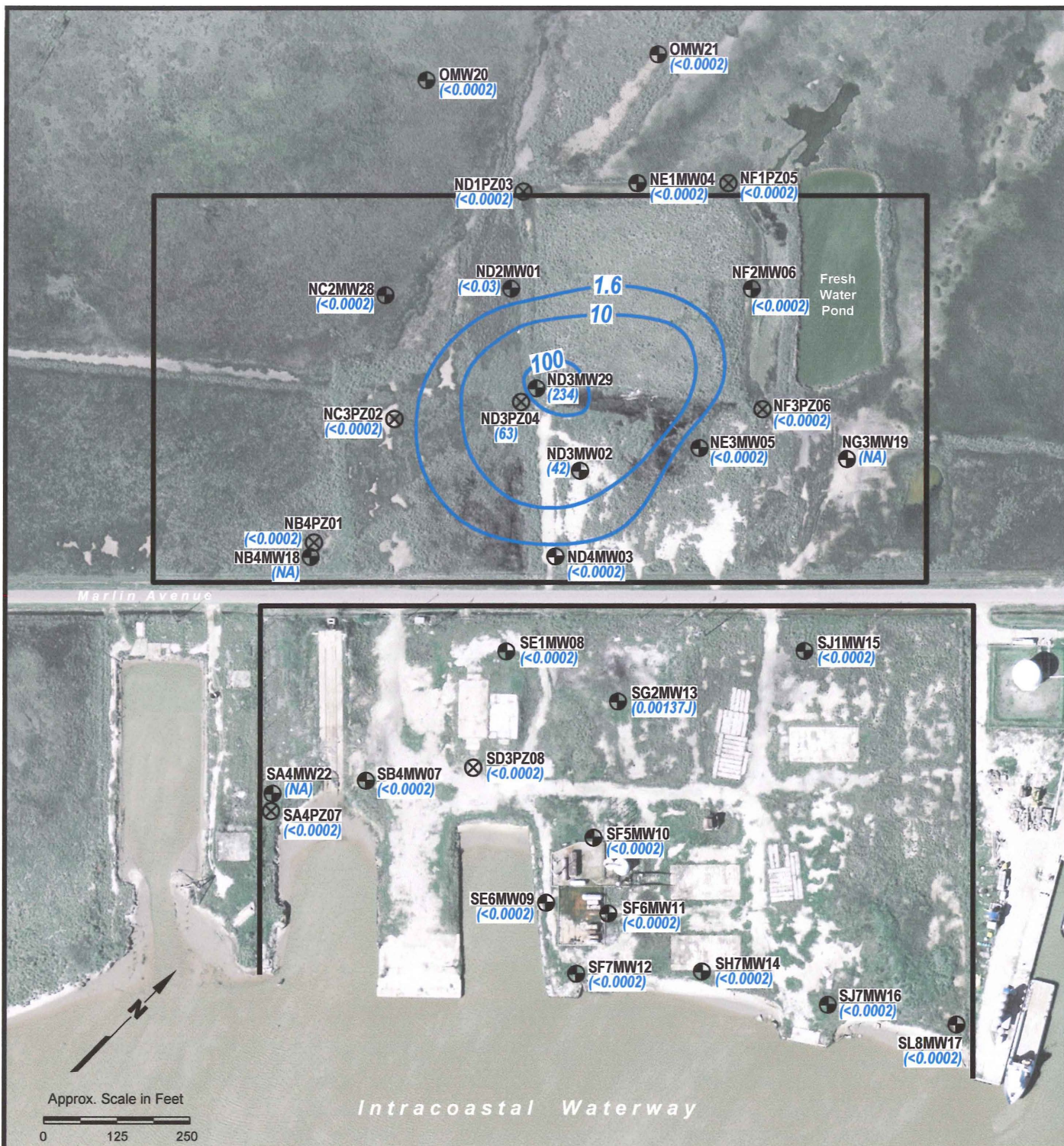
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- ⊕ Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (<0.03) 1,1,1-Trichloroethane (1,1,1-TCA) Concentration (mg/L)
- 10 — Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 23

1,1,1-TCA CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

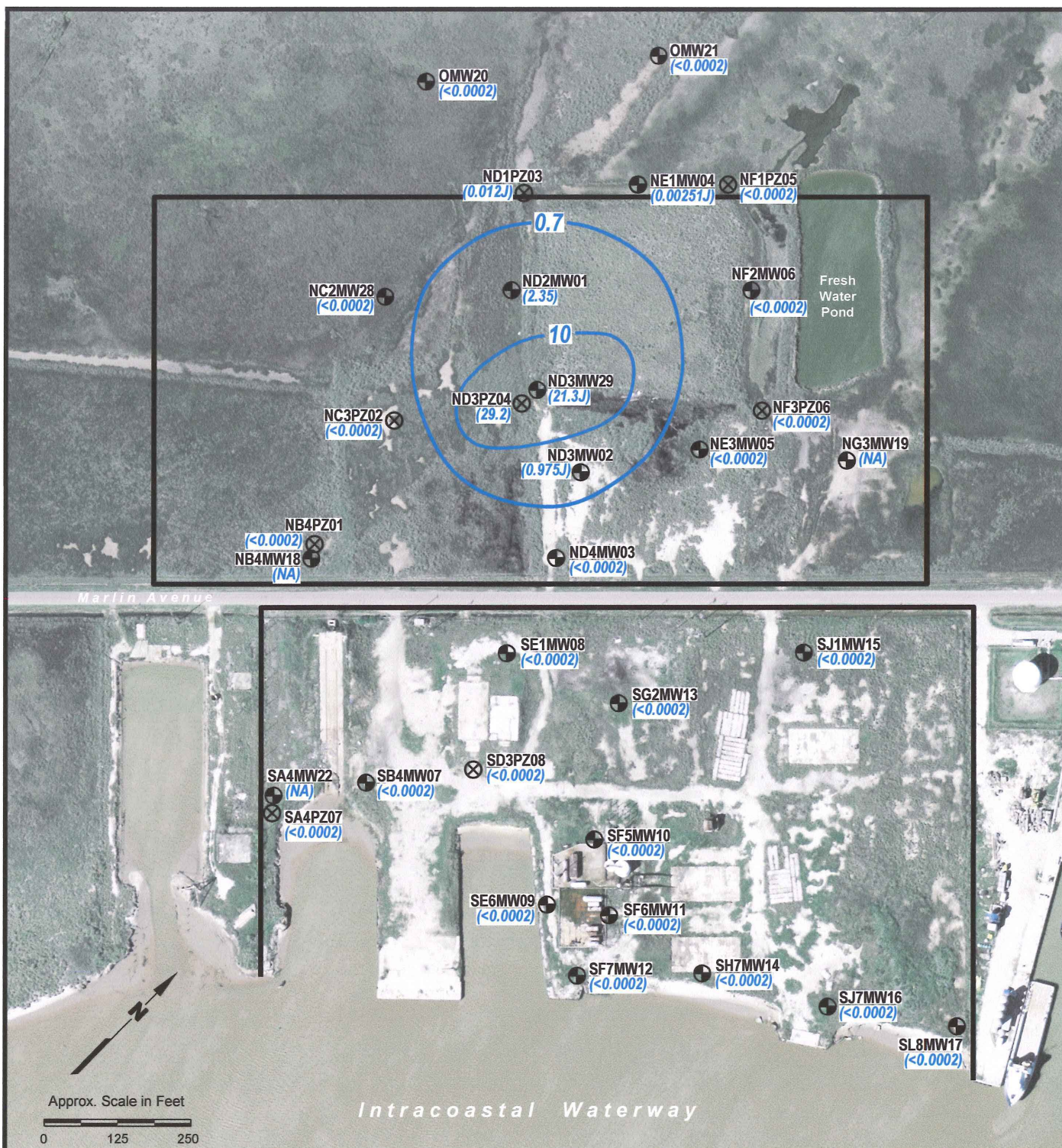
BY: ZGK

REVISIONS

DATE: FEB., 2009

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location - Zone A
- X Temporary Piezometer - Zone A
- (2.35) 1,1-Dichloroethene (1,1-DCE) Concentration (mg/L)
- 0.7- Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 24

1,1-DCE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

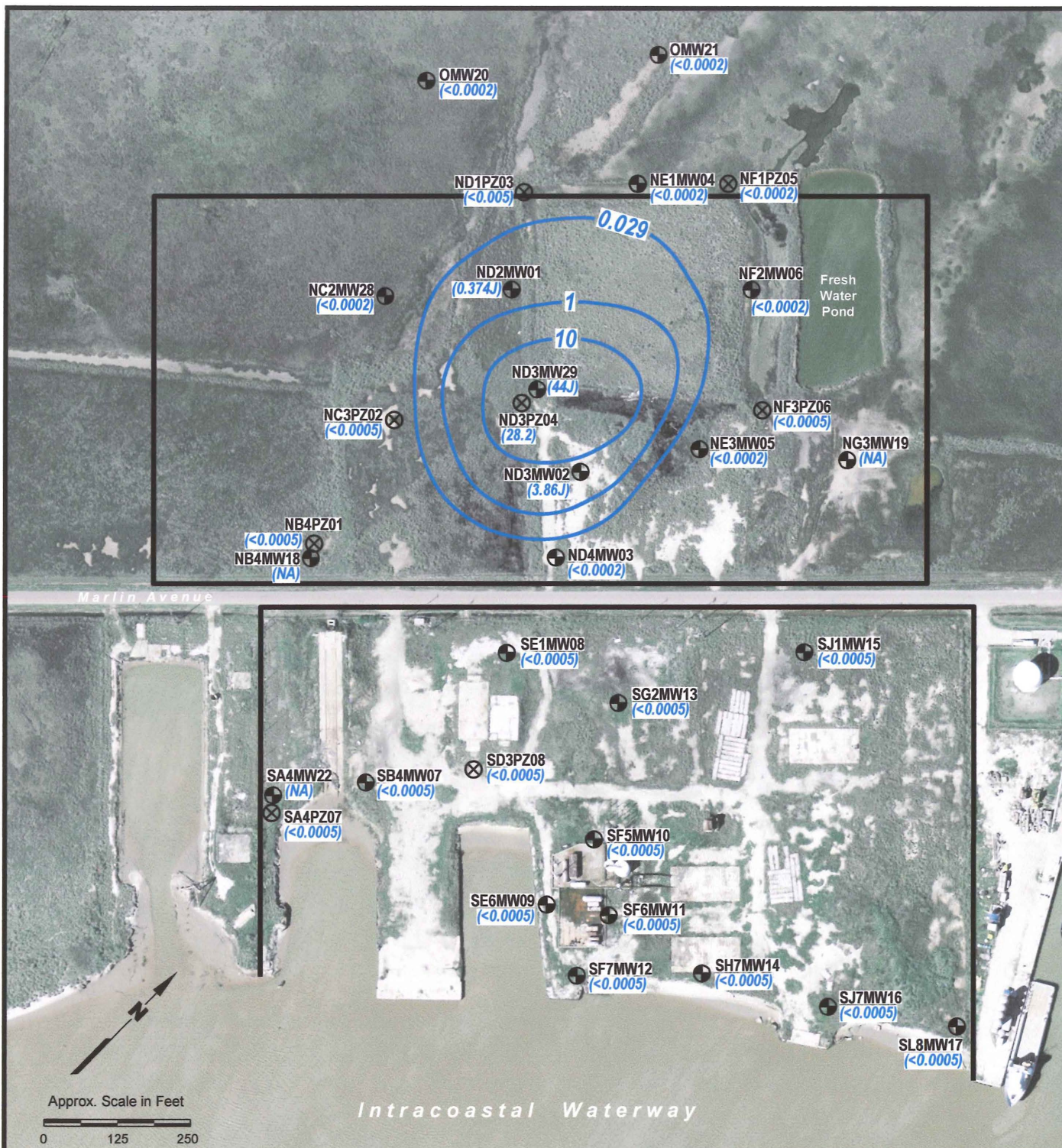
BY: ZGK

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location - Zone A
- Temporary Piezometer - Zone A
- (3.86J) 1,2,3-Trichloropropane (1,2,3-TCP) Concentration (mg/L)
- 10 - Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

Source of photo: H-GAC, Texas aerial photograph, 2006.

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Figure 25

1,2,3-TCP CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- (1.25) 1,2-Dichloroethane (1,2-DCA) Concentration (mg/L)
- 0.5- Concentration Contour (mg/L) Variable Contour Interval
- Monitoring Well Location - Zone A
- Temporary Piezometer - Zone A

Notes:

1. Concentrations are from the most recent sample collected from each location.
2. NA = Not analyzed for this compound.

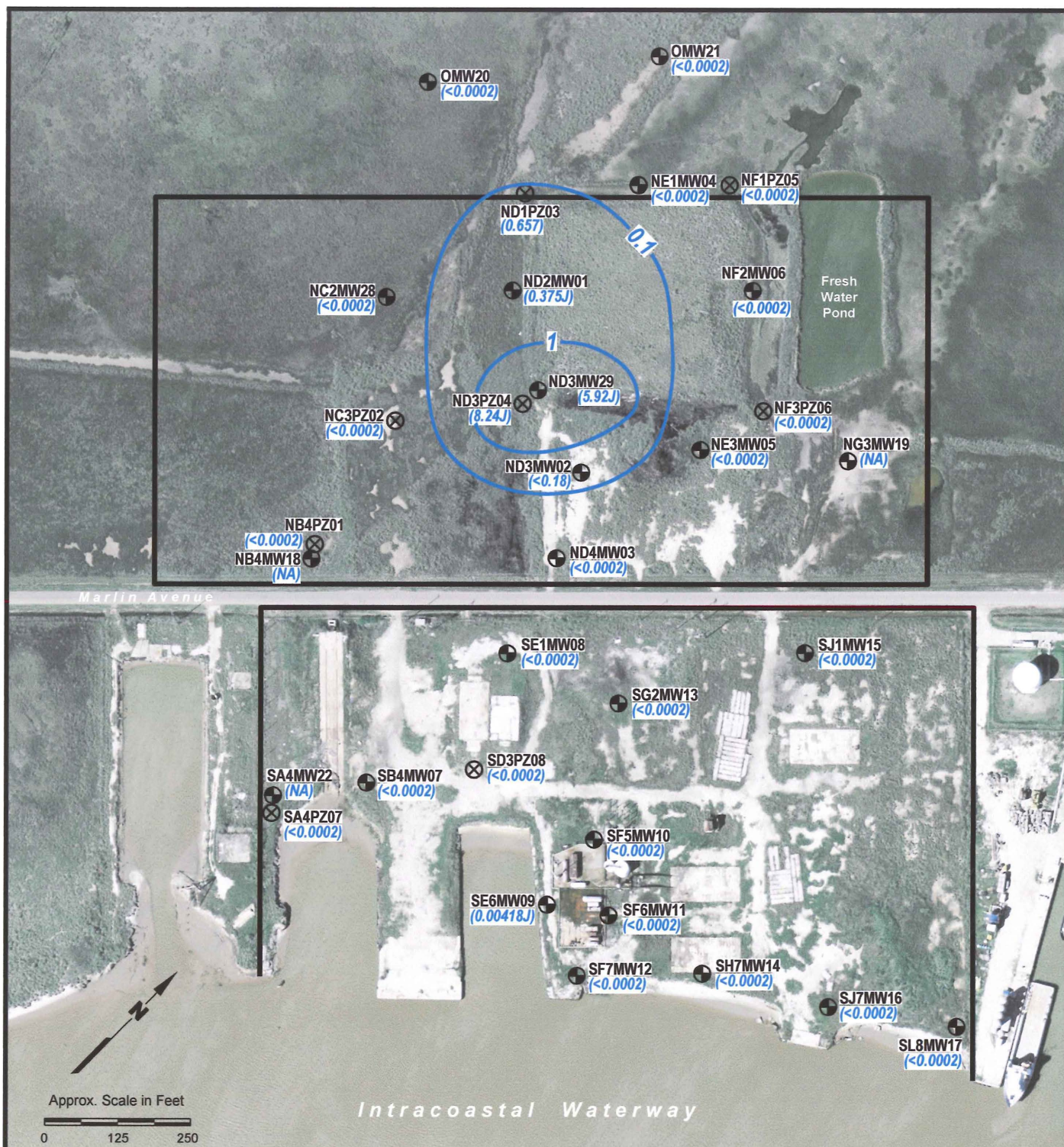
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 26

1,2-DCA CONCENTRATIONS IN ZONE A MONITORING WELLS

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (1.25) Benzene Concentration (mg/L)
- 0.1- Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

Source of photo: H-GAC, Texas aerial photograph, 2006.

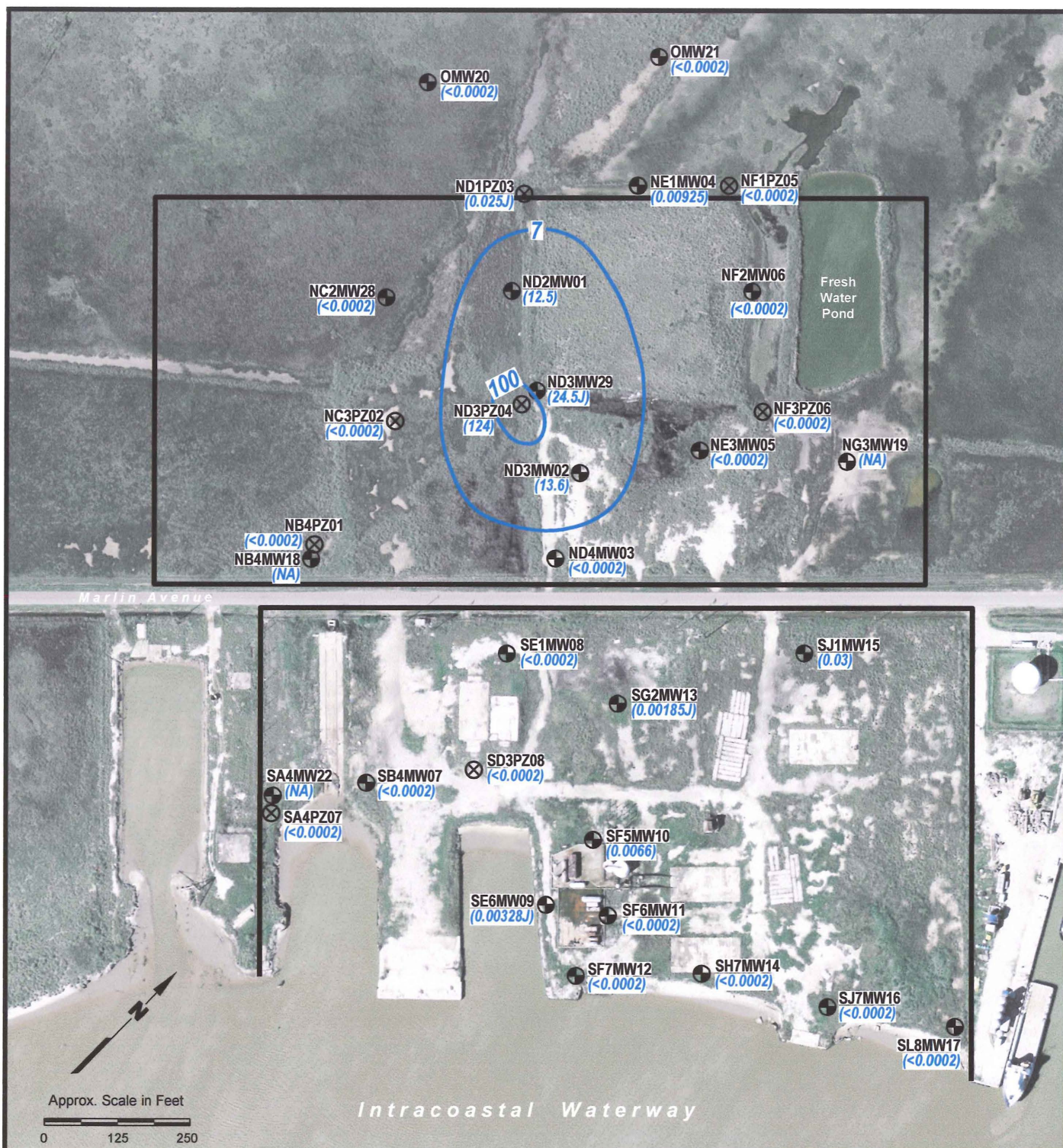
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 27

BENZENE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (12.5) Cis-1,2-Dichloroethene (cis-1,2-DCE) Concentration (mg/L)
- 7 — Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

Source of photo: H-GAC, Texas aerial photograph, 2006.

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Figure 28

CIS-1,2-DCE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

BY: ZGK

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- ⊕ Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (<0.1) Methylene Chloride Concentration (mg/L)
- 0.5 — Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 29

METHYLENE CHLORIDE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

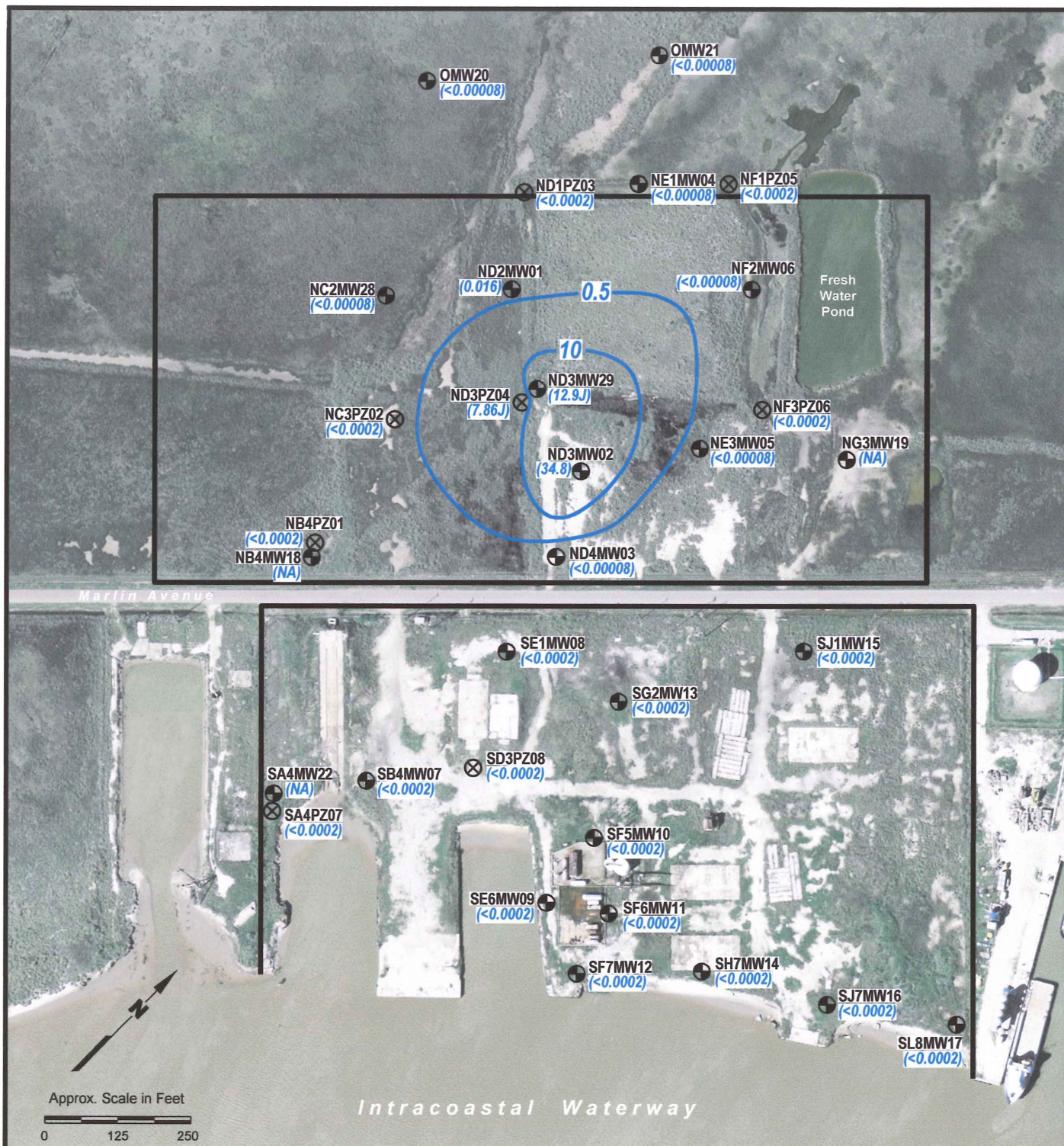
BY: ZGK

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DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- ⊕ Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (7.86J) Tetrachloroethene (PCE) Concentration (mg/L)
- 0.5- Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

Source of photo: H-GAC, Texas aerial photograph, 2006.

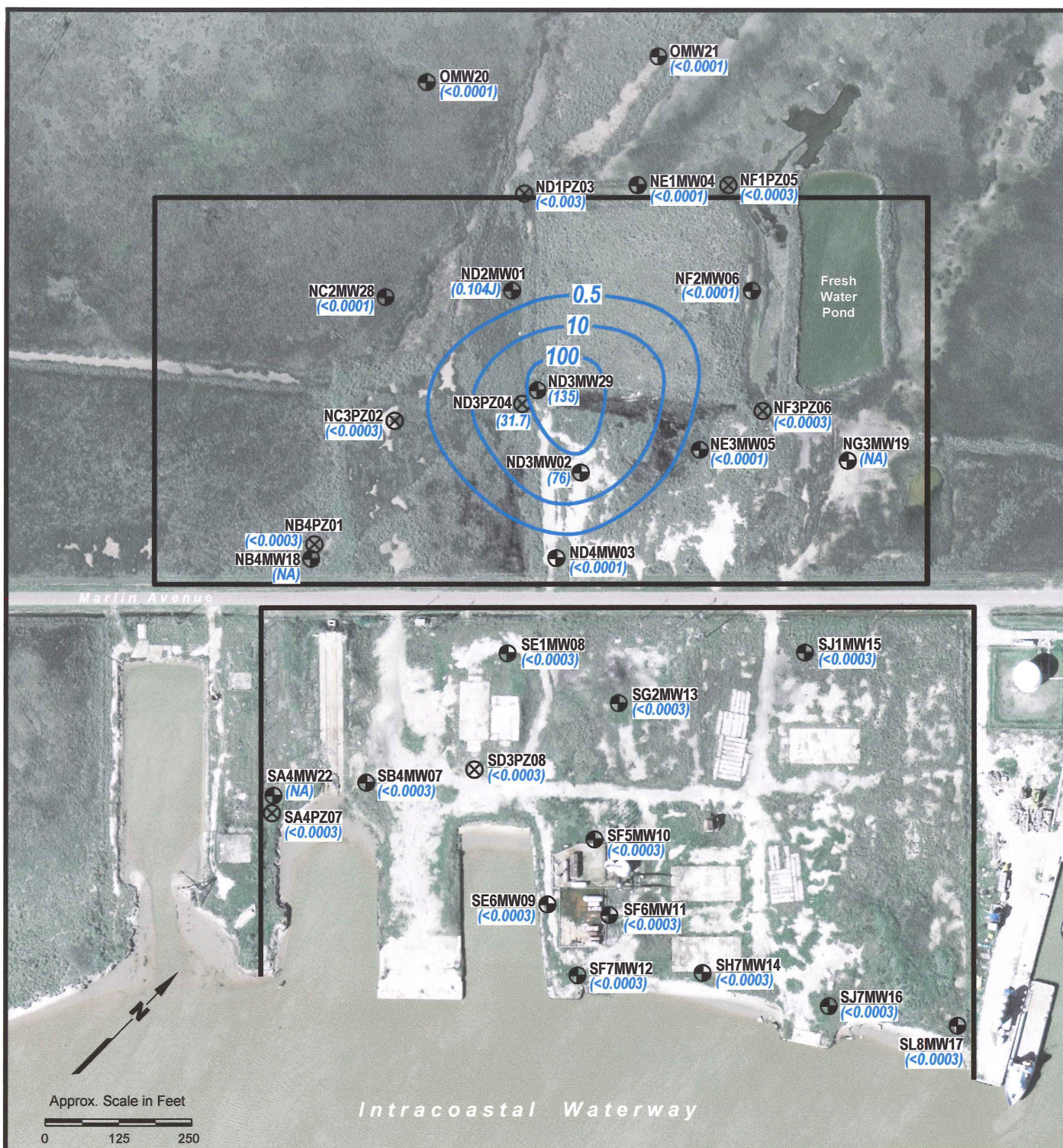
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 30

PCE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- ⊕ Monitoring Well Location - Zone A
- ⊗ Temporary Piezometer - Zone A
- (31.7) Trichloroethene (TCE) Concentration (mg/L)
- 0.5 — Concentration Contour (mg/L) Variable Contour Interval

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 31

TCE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

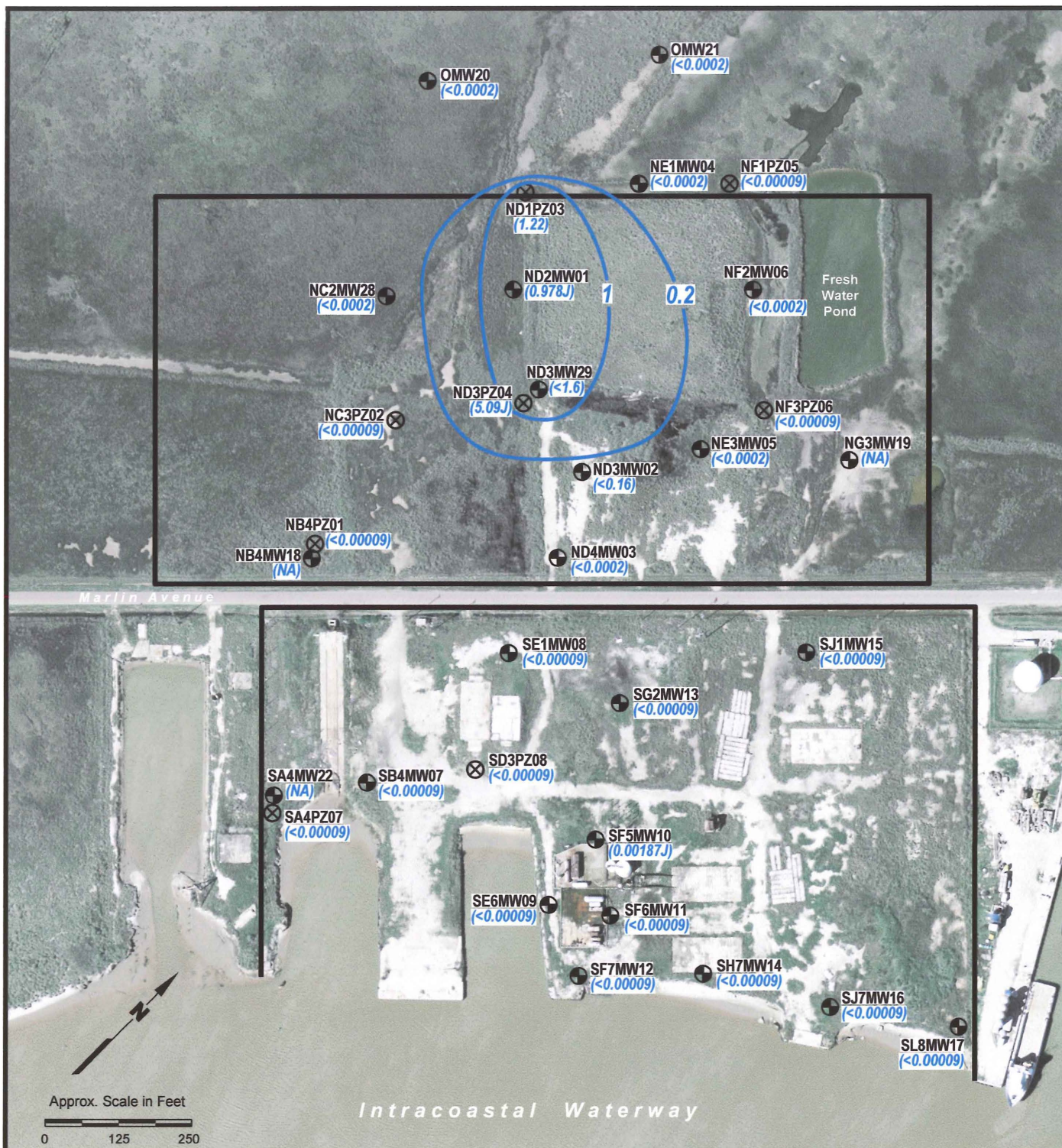
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFF

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EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- (1.22) Vinyl Chloride Concentration (mg/L)
- 0.2 - Concentration Contour (mg/L) Variable Contour Interval
- + Monitoring Well Location - Zone A
- X Temporary Piezometer - Zone A

Notes:

1. Concentrations are for the most recent sample collected from each location.
2. NA = Not analyzed for this compound.
3. J = Estimated value.

Source of photo: H-GAC, Texas aerial photograph, 2006.

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Figure 32

VINYL CHLORIDE CONCENTRATIONS IN ZONE A MONITORING WELLS

PROJECT: 1352

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EXPLANATION

- | | | | |
|--|---|--|--|
| | Gulfco Marine Maintenance Site Boundary (approximate) | | (1.89) Water-Level Elevation (Ft AMSL) Measured 06/06/07 |
| | Monitoring Well Location - Zone B | | 2.0 Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.1 Ft |

Source of photo: H-GAC, Texas aerial photograph, 2006.

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Figure 33 ZONE B POTENTIOMETRIC SURFACE JUNE 6, 2007

PROJECT: 1352

BY: ZGK

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DATE: FEB., 2009

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EXPLANATION

- | | |
|---|---|
| <p>— Gulfco Marine Maintenance Site Boundary (approximate)</p> <p>● Monitoring Well Location - Zone B</p> | <p>(2.29) Water-Level Elevation (Ft AMSL) Measured 09/06/07</p> <p>—2.0— Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.1 Ft</p> |
|---|---|

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 34

ZONE B POTENTIOMETRIC SURFACE SEPTEMBER 6, 2007

PROJECT: 1352

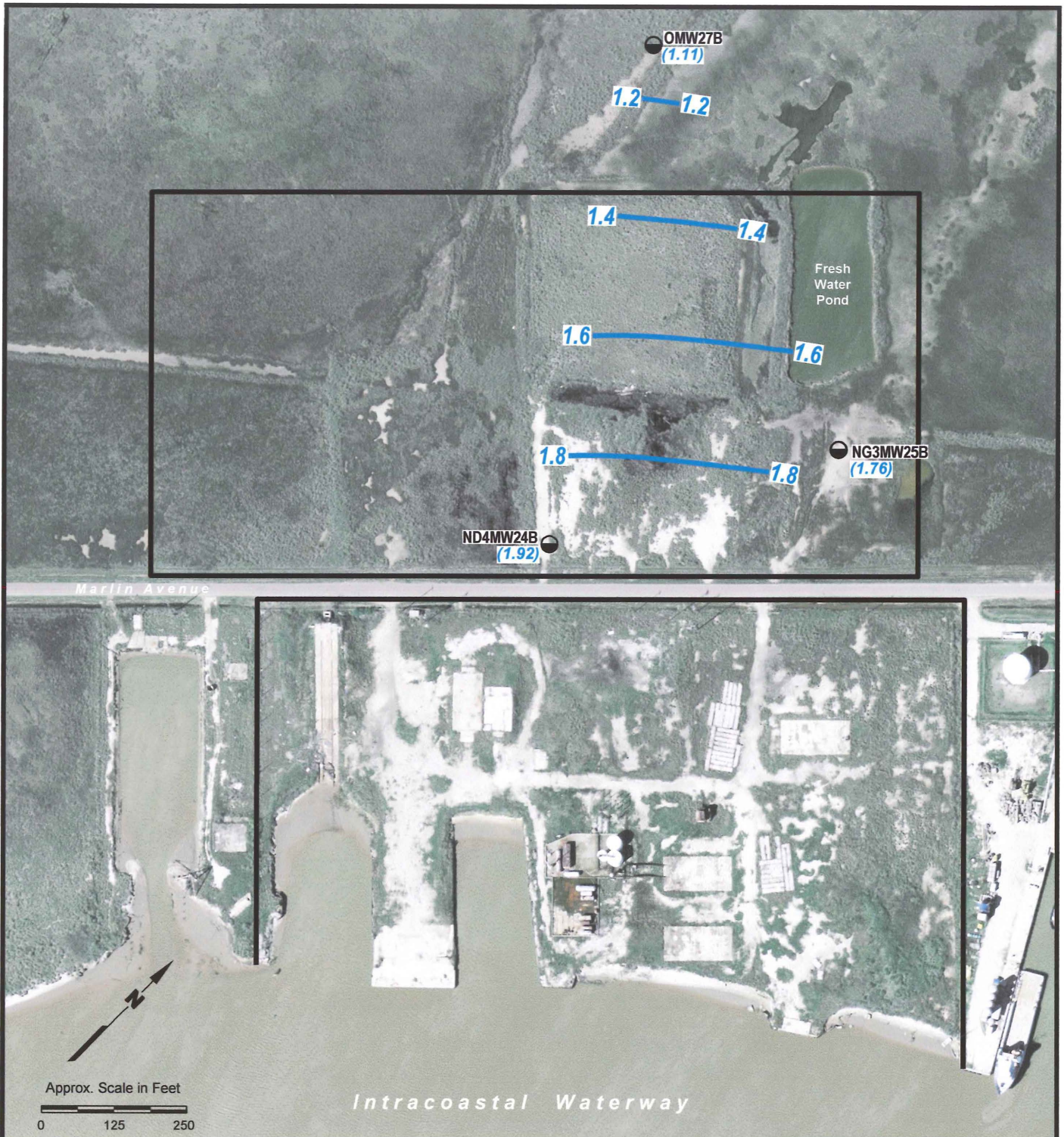
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- | | |
|---|--|
| — Gulfco Marine Maintenance Site Boundary (approximate) | (1.92) Water-Level Elevation (Ft AMSL) Measured 11/07/07 |
| ● Monitoring Well Location - Zone B | —1.6— Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.2 Ft |

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 35

ZONE B POTENTIOMETRIC SURFACE NOVEMBER 7, 2007

PROJECT: 1352

BY: ZGK

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EXPLANATION

- | | | | |
|--|---|--|---|
| | Gulfco Marine Maintenance Site Boundary (approximate) | | Water-Level Elevation (Ft AMSL) Measured 12/03/07 |
| | Monitoring Well Location - Zone B | | Potentiometric Surface Contour (Ft AMSL)
Contour Interval = 0.2 Ft |

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 36

ZONE B POTENTIOMETRIC SURFACE DECEMBER 3, 2007

PROJECT: 1352

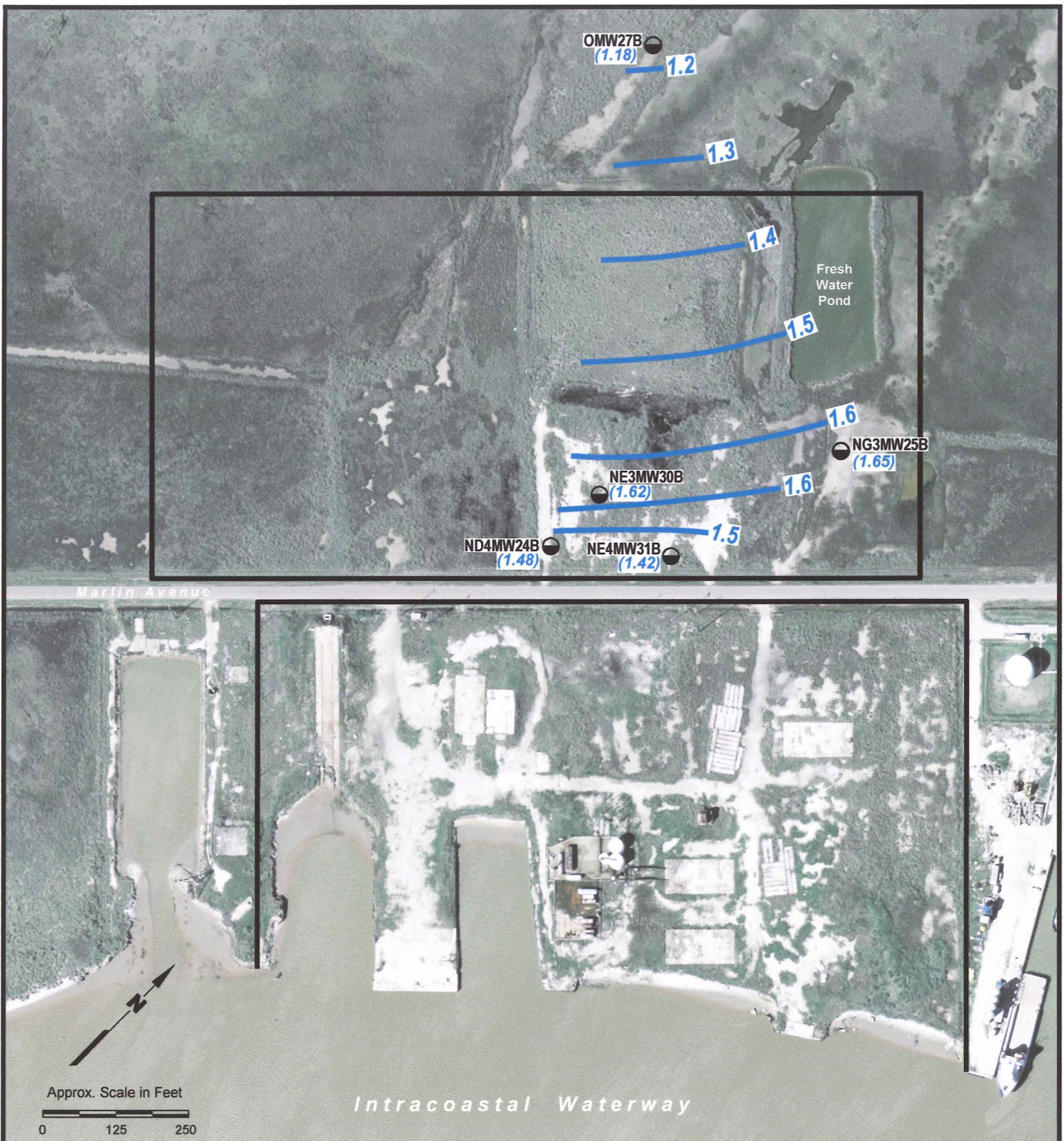
BY: ZGK

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DATE: FEB., 2009

CHECKED: EFP

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EXPLANATION

- | | | | |
|---|---|--|--|
|  | Gulfco Marine Maintenance Site Boundary (approximate) |  (1.48) | Water-Level Elevation (Ft AMSL) Measured 7/30/08 |
|  | Monitoring Well Location - Zone B |  1.5 | Potentiometric Surface Contour (Ft AMSL) Contour Interval = 0.1 Ft |

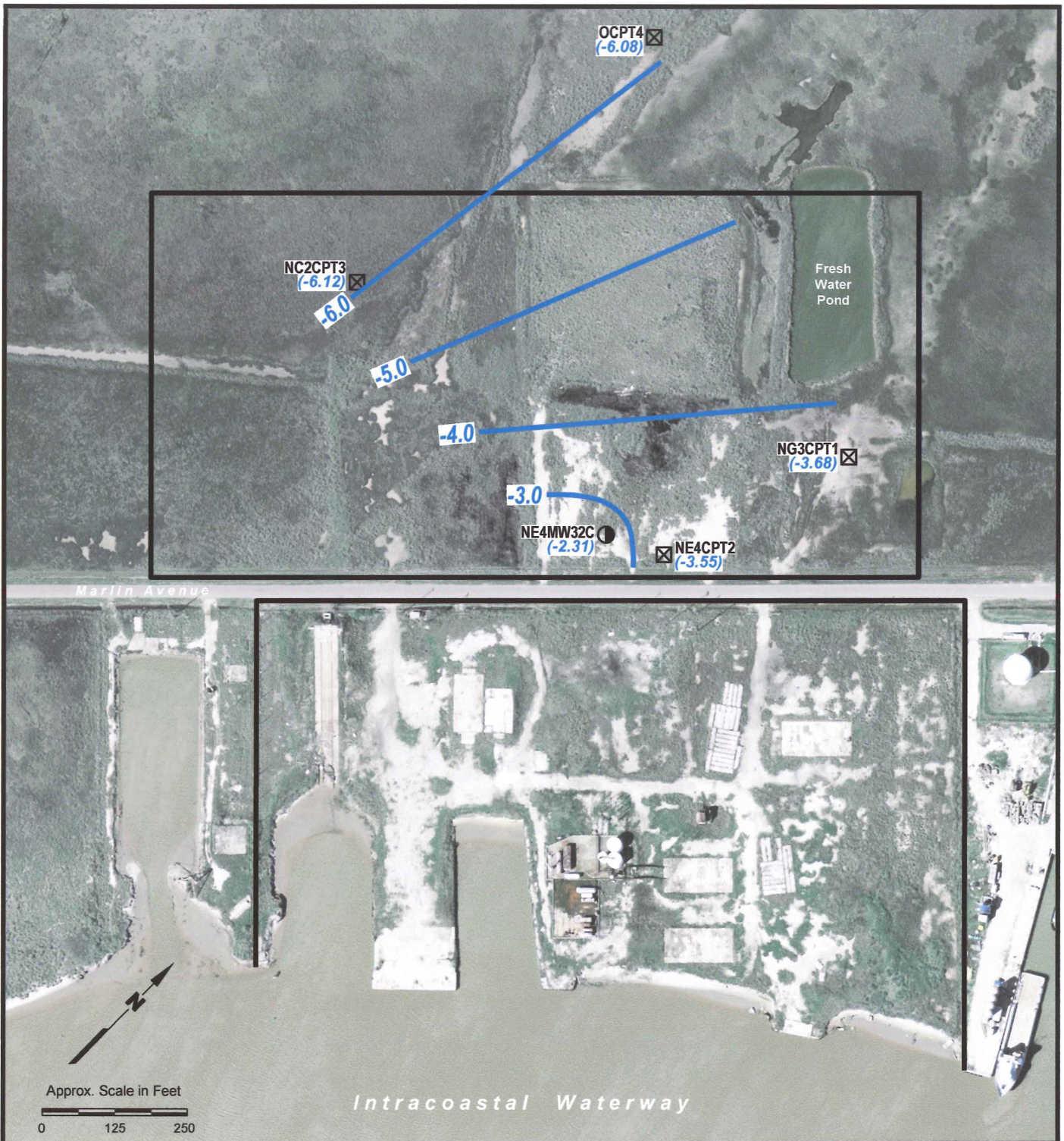
Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 37 ZONE B POTENTIOMETRIC SURFACE JULY 30, 2008

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

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EXPLANATION

- | | |
|---|---|
| — Gulfco Marine Maintenance Site Boundary (approximate) | (-6.12) Water-Level Elevation (Ft AMSL) Measured 6/17/08 |
| ● Monitoring Well Location - Zone C | -3.0 Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft |
| ⊠ CPT Piezometer Location - Zone C | |

Source of photo: H-GAC, Texas aerial photograph, 2006.

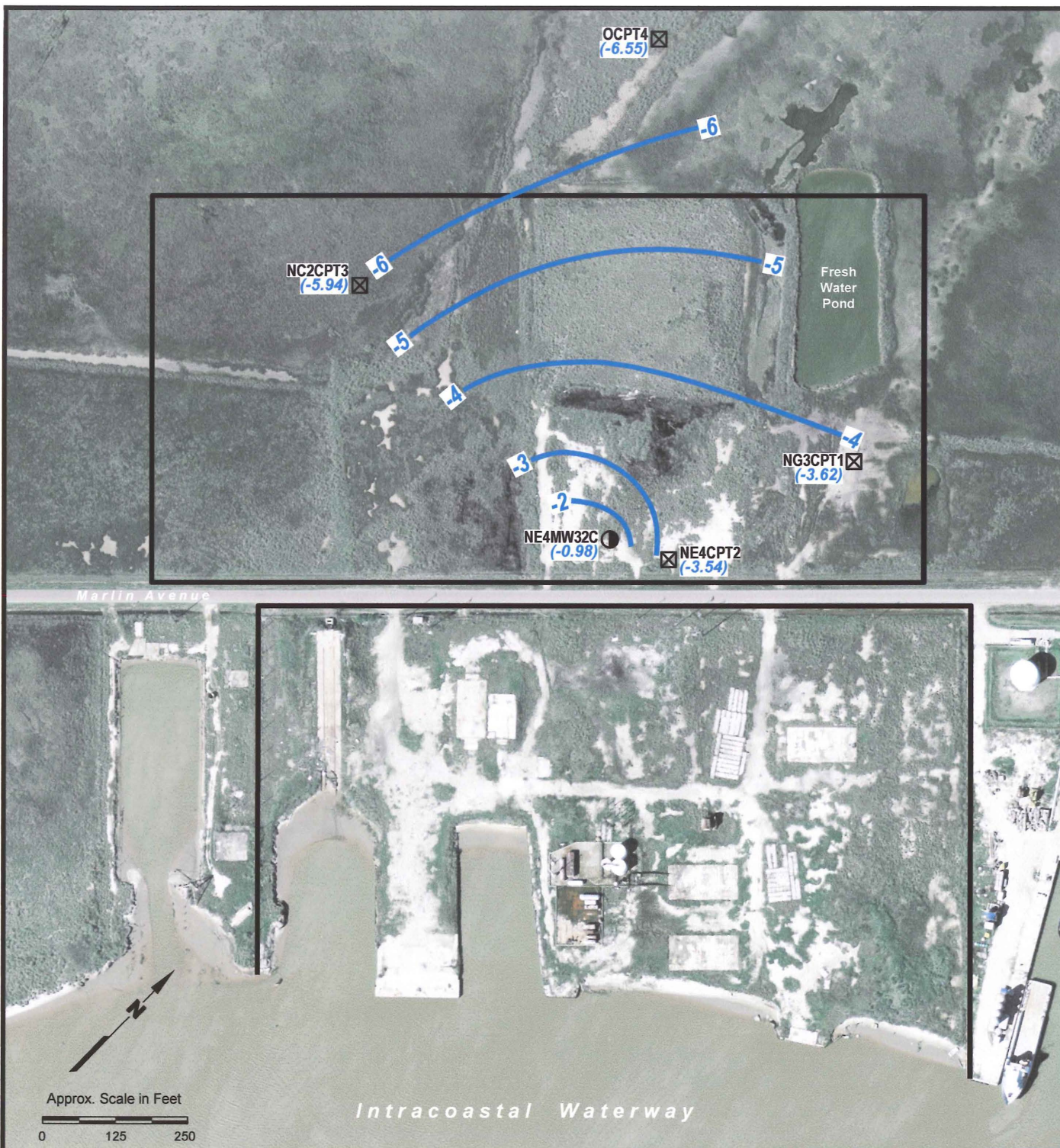
GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 38

ZONE C POTENTIOMETRIC SURFACE JUNE 17, 2008

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- | | | | |
|---|---|---------|--|
| — | Gulfco Marine Maintenance Site Boundary (approximate) | (-6.55) | Water-Level Elevation (Ft AMSL) Measured 7/30/08 |
| ● | Monitoring Well Location - Zone C | -3.0 | Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft |
| ⊠ | CPT Piezometer Location - Zone C | | |

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 39

ZONE C POTENTIOMETRIC SURFACE JULY 30, 2008

PROJECT: 1352

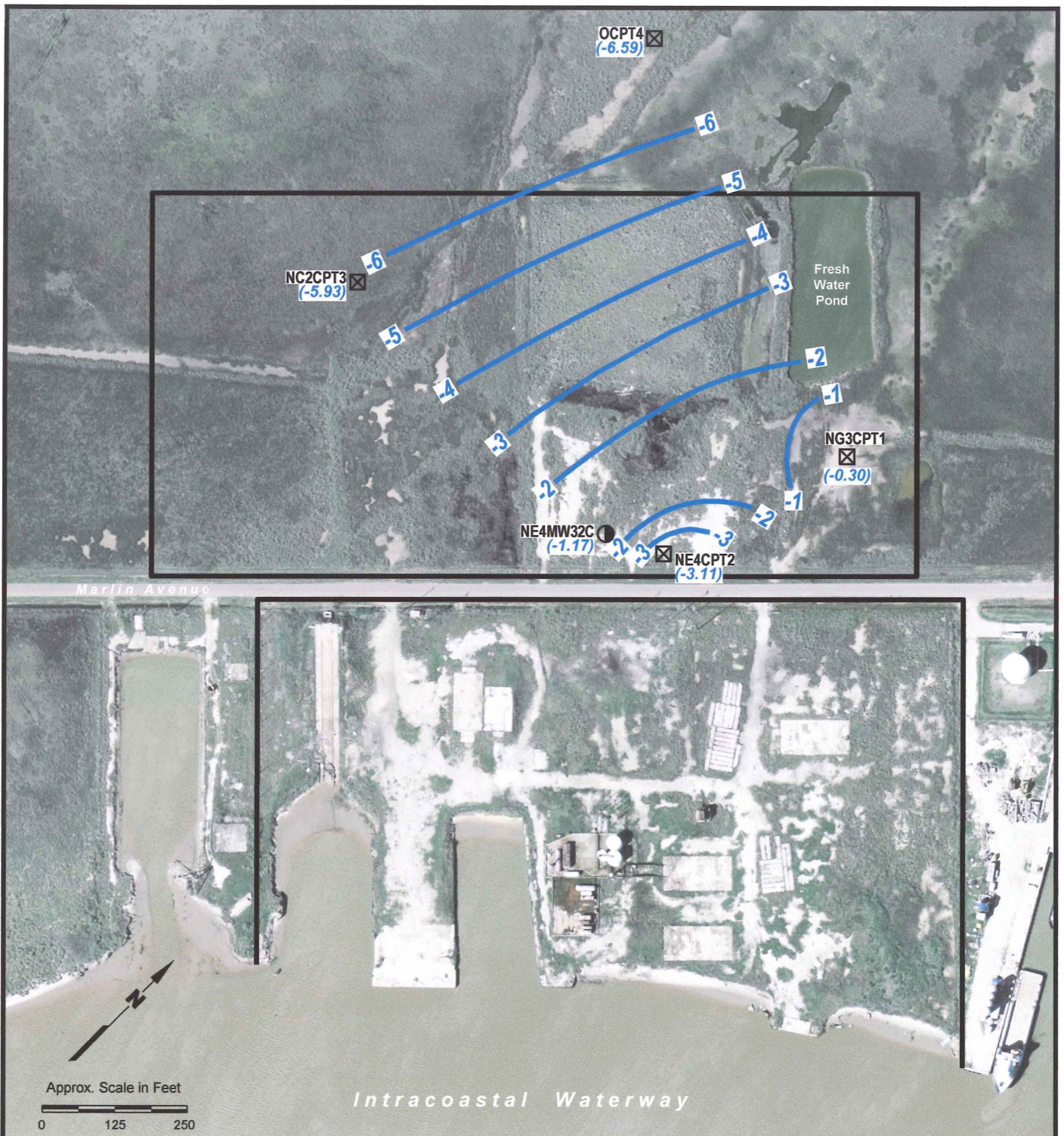
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- | | | | |
|--|---|---------|--|
| | Gulfco Marine Maintenance Site Boundary (approximate) | (-3.11) | Water-Level Elevation (Ft AMSL) Measured 9/29/08 |
| | Monitoring Well Location - Zone C | -3.0 | Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft |
| | CPT Piezometer Location - Zone C | | |

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 40

ZONE C POTENTIOMETRIC SURFACE SEPTEMBER 29, 2008

PROJECT: 1352

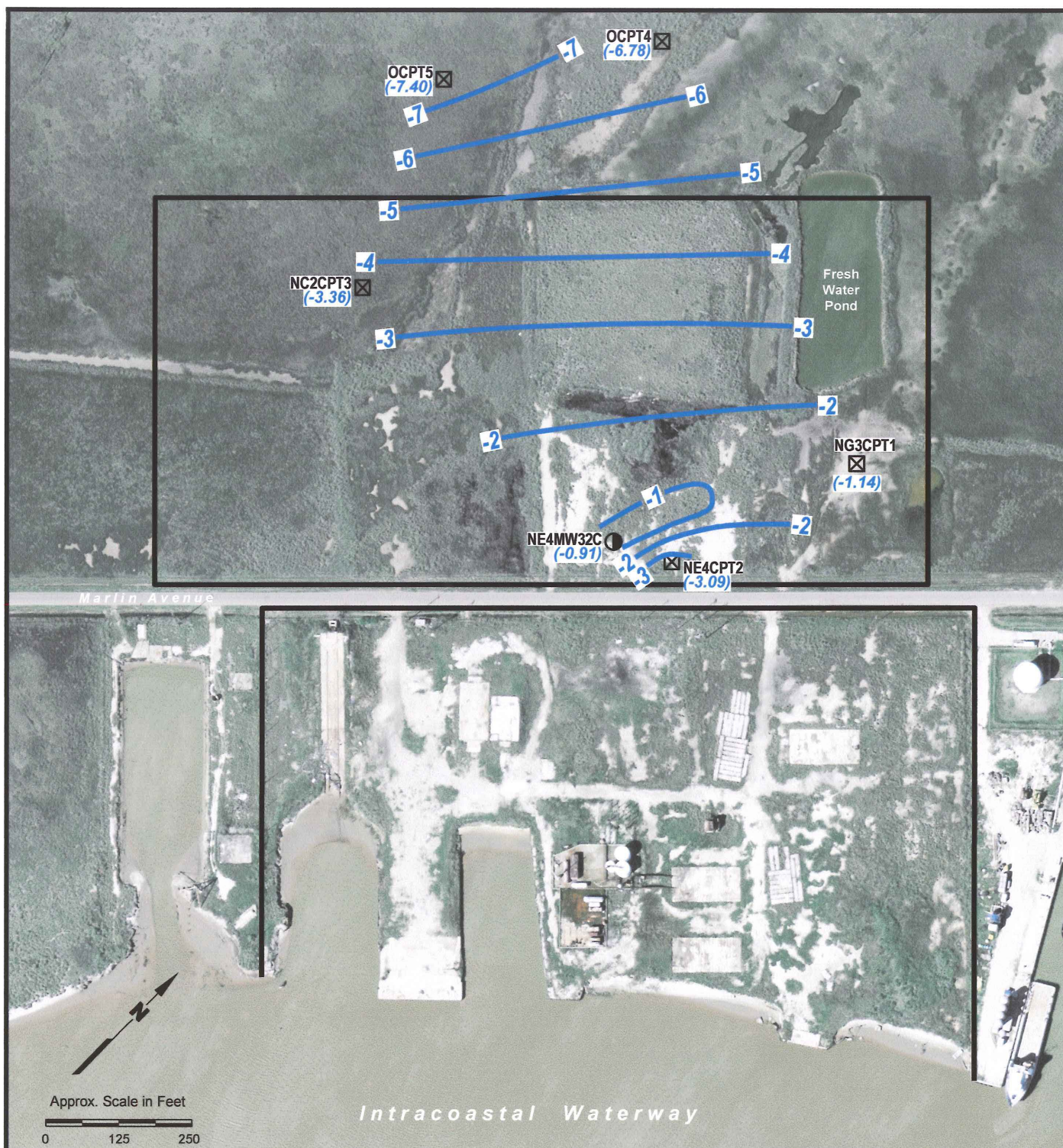
BY: ZGK

REVISIONS

DATE: FEB., 2009

CHECKED: EFP

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

- Gulfco Marine Maintenance Site Boundary (approximate)
- Monitoring Well Location - Zone C
- ☒ CPT Piezometer Location - Zone C
- (-3.11) Water-Level Elevation (Ft AMSL) Measured 1/13/09
- 3.0- Potentiometric Surface Contour (Ft AMSL) Contour Interval = 1 Ft

Source of photo: H-GAC, Texas aerial photograph, 2006.

GULFCO MARINE MAINTENANCE FREEPORT, BRAZORIA COUNTY, TEXAS

Figure 41 **ZONE C POTENTIOMETRIC SURFACE JANUARY 13, 2009**

PROJECT: 1352	BY: ZGK	REVISIONS
DATE: FEB., 2009	CHECKED: EFP	

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

TABLES

TABLE 1 – SITE INVESTIGATION COMMUNICATION SUMMARY

Investigation	Communication Method	Date	Description
Intracoastal Waterway - Sediment	Letter	09-18-06	Gulfco Restoration Group (GRG) ¹ provided Phase 1 Site and background data and proposed collection of three additional samples.
	Letter	11-14-06	EPA approved (with modifications) GRG's 9-18-06 letter.
	Letter	01-12-07	GRG provided unvalidated laboratory report for one sample and explained that other two samples were not collected due to insufficient sediment thicknesses per 11-14-06 EPA letter.
	Letter	03-13-07	GRG provided validated data for final Intracoastal Waterway sample.
Intracoastal Waterway - Surface Water	Letter	09-18-06	GRG provided Site and background data. No additional sampling proposed.
Intracoastal Waterway - Fish Tissue	Letter	09-18-06	GRG provided Phase 1 Site and background sediment data and proposed that no fish tissue collection be performed based on those data.
	Letter	11-14-06	EPA responded to 9-18-06 letter – required collection of fish tissue samples and specified sample analyte list.
	Letter	11-20-06	GRG provided replacement pages to RI/FS Field Sampling Plan and Quality Assurance Project Plan to describe details of fish tissue sampling program in accordance with 11-14-06 EPA letter.
	Letter	01-12-07	GRG documented EPA approval (on 12-14-06) for collection of a reduced number (six) of red drum samples.
	Letter	03-20-07	GRG provided fish tissue analytical data and fish ingestion pathway human health baseline risk assessment.
	Letter	06-29-07	EPA approved (with modifications) fish ingestion pathway human health baseline risk assessment provided in GRG's 3-20-07 letter and requested resubmittal of revised letter.
	Letter	07-18-07	GRG provided revised version of fish ingestion pathway human health baseline risk assessment incorporating modifications from EPA 6-29-07 letter.
South Area Soils	Letter	09-11-07	GRG provided Phase 1 data and proposed Phase 2 investigation. Letter concluded that eastern extent of contamination had been identified.
	Letter	10-30-07	EPA approved (with modifications) Phase 2 investigation proposed in GRG's 9-11-07 letter and requested resubmittal of revised letter.

TABLE 1 – SITE INVESTIGATION COMMUNICATION SUMMARY

South Area Soils (continued)	Letter	11-28-07	GRG resubmitted revised version of Phase 1 data and proposed Phase 2 investigation letter incorporating modifications from EPA 10-30-07 letter.
	e-mail	12-13-07	GRG provided Phase 2 data and concluded that western extent of contamination had been identified.
Residential Surface Soil Investigation	Letter	08-20-07	GRG proposed analyte (lead) for off-site (Lot 19/20) samples based on data for Lots 21, 22, and 23 surface soil samples.
	Letter	09-06-07	EPA approved (with modification) Lot 19/20 analyte (lead) proposed in GRG's 8-20-07 letter and requested resubmittal of revised letter.
	Letter	09-21-07	GRG resubmitted revised version of proposed Lot 19/20 sample analyte letter incorporating modification from EPA 9-6-07 letter.
	e-mail	10-10-07	GRG provided unvalidated data for Lot 19/20 samples with preliminary conclusion (subject to validation) that no additional residential soil sampling was needed.
	e-mail	10-15-07	GRG provided validated data for Lot 19/20 samples with note that no data were qualified during validation process.
North Area Soils	Letter	09-11-07	GRG provided Phase 1 data and proposed Phase 2 investigation. Letter concluded that lateral extent of contamination had been determined, but proposed one additional sample to assess vertical extent of contamination and six additional borings to evaluate potential source areas.
	Letter	10-30-07	EPA approved (with modifications) Phase 2 investigation proposed in GRG's 9-11-07 letter and requested resubmittal of revised letter.
	Letter	11-28-07	GRG resubmitted Phase 1 data and proposed Phase 2 investigation letter incorporating modifications from EPA 10-30-07 letter.
	Letter	04-08-08	GRG provided validated Phase 2 data.
Wetlands – Sediment	Letter	11-28-06	GRG provided figure with proposed Phase 2 wetland sediment/surface water sample locations.
	e-mail	12-01-06	GRG provided revised figure with proposed Phase 2 wetland sediment/surface water locations (included one additional sediment sample location requested by EPA).
	e-mail	12-01-06	EPA approved proposed Phase 2 wetland sediment/surface water locations in GRG's 12-01-06 e-mail.
	Letter	11-01-07	GRG provided Phase 1 and 2 wetland sediment data and proposed Phase 3 investigation.
	Letter	12-13-07	EPA approved Phase 3 wetland sediment investigation proposed in GRG's 11-01-07 letter.
	Letter	2-12-08	GRG provided Phase 3 wetland sediment data and proposed Phase 4 investigation.

TABLE 1 – SITE INVESTIGATION COMMUNICATION SUMMARY

Wetlands – Sediment (continued)	Letter	3-18-08	EPA approved (with modifications) Phase 4 wetland sediment investigation proposed in GRG's 2-12-08 letter and requested resubmittal of revised letter.
	Letter	04-14-08	GRG resubmitted Phase 3 wetland sediment data and proposed Phase 4 investigation incorporating modifications from EPA 3-18-08 letter.
	Letter	09-08-08	GRG provided validated Phase 4 data.
Wetlands – Surface Water	Letter	11-28-06	GRG provided figure with proposed Phase 2 wetland sediment/surface water sample locations.
	e-mail	12-01-06	GRG provided revised figure with proposed Phase 2 wetland sediment/surface water sample locations.
	e-mail	12-01-06	EPA approved proposed Phase 2 wetland sediment/surface water locations in GRG's 12-01-06 e-mail.
	e-mail	05-10-07	GRG provided Phase 1 and Phase 2 wetland surface water data with conclusion that no additional wetland surface water sampling was needed.
Ponds - Sediment	Letter	11-13-06	GRG provided validated data for pond sediment samples.
Ponds – Surface Water	Letter	11-13-06	GRG provided validated data for pond surface water samples.
Groundwater	Letter	01-19-07	GRG provided Phase 1 data and proposed Phase 2 investigation (including five additional Zone A monitoring wells and five Zone B monitoring wells).
	Letter	03-01-07	EPA approved (with modifications) proposed Phase 2 investigation in GRG's 1-19-07 letter. Modifications included addition of two more Zone A wells.
	Letter	06-13-07	GRG documented EPA concurrence (on 5-30-07) that proposed Zone B monitoring wells NCMW23B and OMW26B not be installed because soil borings indicated that Zone B was not present at these locations.
	Letter	10-12-07	GRG provided Phase 2 data and proposed Phase 3 investigation (including one additional Zone B monitoring well).
	Letter	11-08-07	EPA approved (with modifications) proposed Phase 3 investigation in GRG's 10-12-07 letter and requested resubmittal of revised letter.
	Letter	11-30-07	GRG resubmitted Phase 2 data and proposed Phase 3 investigations incorporating modifications from EPA 11-08-07 letter.
	Letter	01-15-08	GRG provided Phase 3 data and proposed Phase 4 investigation (including one additional Zone B monitoring well, two Zone C piezometers, and one Zone C monitoring well).

TABLE 1 – SITE INVESTIGATION COMMUNICATION SUMMARY

Groundwater (continued)	Telephone Conversation	01-28-08	EPA requested that proposed Phase 4 investigations be modified to include use of Membrane Interface Probe during Cone Penetrometer (CPT) advancement and installation of four Zone C piezometers instead of two Zone C piezometers.
	Letter	02-11-08	GRG provided Phase 3 data and revised proposal for Phase 4 investigation (including one additional Zone B monitoring well, four Zone C piezometers, and one Zone C monitoring well).
	Letter	03-18-08	EPA approved proposed Phase 4 investigation in GRG's 2-11-08 letter.
	e-mail	06-18-08	GRG proposed deep soil boring location.
	e-mail	06-18-08	EPA approved proposed deep soil boring location.
	Telephone conversation	07-16-08	GRG provided preliminary Phase 4 data to EPA.
	e-mail	07-17-08	GRG proposed resampling of well NE4MW32C and sampling of four Zone C CPT piezometers.
	e-mail	07-23-08	Per EPA request, GRG provided description of procedures to be used for sampling CPT piezometers.
	e-mail	07-23-08	EPA approved proposed sampling procedures for CPT piezometers.
	Letter	08-12-08	GRG provided unvalidated Phase 4 data to EPA.
	e-mail	08-19-08	GRG provided preliminary data for NE4MW32C and four Zone C CPT piezometers.
	e-mail	09-03-08	GRG proposed resampling of well NE4MW32C.
	Letter	09-10-08	EPA approved proposed resampling of well NE4MW32C.
	e-mail	10-27-08	GRG provided updated Zone C data and proposed resampling of well NE4MW32C and installation of additional Zone C CPT piezometer.
	Letter	11-12-08	GRG provided validated Phase 4 data and proposed Phase 5 investigation (resampling of well NE4MW32C and installation of additional Zone C CPT piezometer).
	Letter	12-18-08	EPA approved proposed Phase 5 investigation.
	Letter	02-09-09	GRG provided Phase 5 data.

Notes:

¹Gulfco Restoration Group (GRG) refers to LDL Coastal Limited LP (LDL), Chromalloy American Corporation (Chromalloy) and The Dow Chemical Company (Dow), collectively.

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSedComb ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
METALS						
Aluminum	1.5E+05	---	---	1.53E+05	3.31E+04	1.53E+05
Antimony	8.3E+01	---	---	8.32E+01	1.26E+01	8.32E+01
Arsenic	1.1E+02	8.20E+00	8.20E+00	8.20E+00	1.52E+01	1.52E+01
Barium	2.3E+04	---	---	8.00E+03	3.54E+02	8.00E+03
Beryllium	2.7E+01	---	---	2.66E+01	1.99E+00	2.66E+01
Boron	1.1E+05	---	---	1.07E+05	6.65E+01	1.07E+05
Cadmium	1.1E+03	1.20E+00	1.20E+00	1.20E+00	---	1.20E+00
Chromium	3.6E+04	8.10E+01	8.10E+01	8.10E+01	3.26E+01	8.10E+01
Chromium (VI)	1.4E+02	---	---	1.36E+02	---	1.36E+02
Cobalt	3.2E+04	---	---	3.20E+04	1.63E+01	3.20E+04
Copper	2.1E+04	3.40E+01	3.40E+01	3.40E+01	2.38E+01	3.40E+01
Iron	---	---	---	NV ⁸	---	NV
Lead	5.0E+02	4.67E+01	4.67E+01	4.67E+01	2.05E+01	4.67E+01
Lithium	1.1E+04	---	---	1.07E+04	6.51E+01	1.07E+04
Manganese	1.4E+04	---	---	1.40E+04	6.01E+02	1.40E+04
Mercury	3.4E+01	1.50E-01	1.50E-01	1.50E-01	5.76E-02	1.50E-01
Molybdenum	1.8E+03	---	---	1.84E+03	4.46E-01	1.84E+03
Nickel	1.4E+03	2.09E+01	2.09E+01	2.09E+01	3.95E+01	3.95E+01
Selenium	2.7E+03	---	---	2.66E+03	---	2.66E+03
Silver	3.5E+02	1.00E+00	1.00E+00	1.00E+00	---	1.00E+00
Strontium	1.5E+05	---	---	1.52E+05	1.26E+02	1.52E+05
Thallium	4.3E+01	---	---	4.3E+01	---	4.30E+01
Tin	9.2E+04	---	---	9.19E+04	---	9.19E+04
Titanium	1.0E+06	---	---	1.00E+06	6.36E+01	1.00E+06
Vanadium	3.3E+02	---	---	3.29E+02	4.79E+01	3.29E+02
Zinc	7.6E+04	1.50E+02	1.50E+02	1.50E+02	7.75E+01	1.50E+02
PESTICIDES						
4,4'-DDD	1.2E+02	1.22E-03	1.22E-03	1.22E-03	---	1.22E-03
4,4'-DDE	8.7E+01	2.07E-03	2.07E-03	2.07E-03	---	2.07E-03
4,4'-DDT	8.7E+01	1.19E-03	1.19E-03	1.19E-03	---	1.19E-03
Aldrin	8.4E-01	---	---	8.36E-01	---	8.36E-01
alpha-BHC	4.1E+00	---	---	4.05E+00	---	4.05E+00

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSedComb ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
alpha-Chlordane	4.1E+01	0.00226 ⁽⁷⁾	---	2.26E-03	---	2.26E-03
beta-BHC	1.4E+01	---	---	1.42E+01	---	1.42E+01
delta-BHC	1.4E+01	---	---	1.42E+01	---	1.42E+01
Dieldrin	8.9E-01	7.15E-04	7.15E-04	7.15E-04	---	7.15E-04
Endosulfan I	3.1E+02	---	2.90E-03	2.90E-03	---	2.90E-03
Endosulfan II	9.2E+02	---	1.40E-02	1.40E-02	---	1.40E-02
Endosulfan sulfate	9.2E+02	---	---	9.19E+02	---	9.19E+02
Endrin	4.6E+01	---	3.50E-03	3.50E-03	---	3.50E-03
Endrin aldehyde	4.6E+01	---	---	4.59E+01	---	4.59E+01
Endrin ketone	4.6E+01	---	---	4.59E+01	---	4.59E+01
gamma-BHC (Lindane)	2.0E+01	3.20E-04	3.20E-04	3.20E-04	---	3.20E-04
gamma-Chlordane	4.1E+01	0.00226 ⁽⁷⁾	---	2.26E-03	---	2.26E-03
Heptachlor	3.2E+00	---	---	3.16E+00	---	3.16E+00
Heptachlor epoxide	1.6E+00	---	---	1.56E+00	---	1.56E+00
Methoxychlor	7.7E+02	---	1.90E-02	1.90E-02	---	1.90E-02
Toxaphene	1.3E+01	---	2.80E-02	2.80E-02	---	2.80E-02
PCBs	2.3E+00	2.27E-02	---	2.27E-02	---	2.27E-02
Aroclor-1016	---	---	---	NV	---	NV
Aroclor-1221	---	---	---	NV	---	NV
Aroclor-1232	---	---	---	NV	---	NV
Aroclor-1242	---	---	---	NV	---	NV
Aroclor-1248	---	---	---	NV	---	NV
Aroclor-1254	---	---	---	NV	---	NV
Aroclor-1260	---	---	---	NV	---	NV
VOCs						
1,1,1,2-Tetrachloroethane	2.1E+03	---	---	2.10E+03	---	2.10E+03
1,1,1-Trichloroethane	1.5E+05	2.63E+00	1.70E-01	1.70E-01	---	1.70E-01
1,1,2,2-Tetrachloroethane	2.7E+02	6.10E-01	9.40E-01	6.10E-01	---	6.10E-01
1,1,2-Trichloroethane	9.6E+02	3.00E-01	---	3.00E-01	---	3.00E-01
1,1-Dichloroethane	7.3E+04	---	---	7.35E+04	---	7.35E+04
1,1-Dichloroethene	3.7E+04	1.54E+01	---	1.54E+01	---	1.54E+01
1,1-Dichloropropene	5.4E+02	---	---	5.45E+02	---	5.45E+02
1,2,3-Trichloropropane	7.8E+00	---	---	7.79E+00	---	7.79E+00
1,2,4-Trichlorobenzene	1.5E+03	3.90E-01	9.20E+00	3.90E-01	---	3.90E-01
1,2,4-Trimethylbenzene	3.7E+04	2.16E+00	---	2.16E+00	---	2.16E+00
1,2-Dibromo-3-chloropropane	1.0E+01	---	---	1.01E+01	---	1.01E+01
1,2-Dibromoethane	2.7E+01	---	---	2.72E+01	---	2.72E+01

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSedComb ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
1,2-Dichlorobenzene	6.6E+04	7.40E-01	3.40E-01	3.40E-01	---	3.40E-01
1,2-Dichloroethane	6.0E+02	4.30E+00	---	4.30E+00	---	4.30E+00
1,2-Dichloropropane	8.0E+02	2.82E+00	---	2.82E+00	---	2.82E+00
1,3,5-Trimethylbenzene	3.7E+04	---	---	3.67E+04	---	3.67E+04
1,3-Dichlorobenzene	2.2E+04	3.20E-01	1.70E+00	3.20E-01	---	3.20E-01
1,3-Dichloropropane	5.4E+02	4.00E-02	---	4.00E-02	---	4.00E-02
1,4-Dichlorobenzene	2.3E+03	7.00E-01	3.50E-01	3.50E-01	---	3.50E-01
2,2-Dichloropropane	8.0E+02	---	---	8.01E+02	---	8.01E+02
2-Butanone	4.4E+05	---	---	4.41E+05	---	4.41E+05
2-Chloroethylvinyl ether	5.0E+01	---	---	4.95E+01	---	4.95E+01
2-Chlorotoluene	3.1E+03	---	---	3.06E+03	---	3.06E+03
2-Hexanone	4.4E+04	---	---	4.41E+04	---	4.41E+04
4-Chlorotoluene	1.5E+04	---	---	1.47E+04	---	1.47E+04
4-Isopropyltoluene	7.3E+04	---	---	7.35E+04	---	7.35E+04
4-Methyl-2-pentanone	5.9E+04	4.53E+01	---	4.53E+01	---	4.53E+01
Acetone	6.6E+05	1.67E+02	---	1.67E+02	---	1.67E+02
Acrolein	3.7E+02	---	---	3.67E+02	---	3.67E+02
Acrylonitrile	1.0E+02	1.70E-01	---	1.70E-01	---	1.70E-01
Benzene	9.9E+02	1.40E-01	5.70E-02	5.70E-02	---	5.70E-02
Bromobenzene	1.5E+04	---	---	1.47E+04	---	1.47E+04
Bromodichloromethane	8.8E+02	---	---	8.79E+02	---	8.79E+02
Bromoform	6.9E+03	1.78E+00	6.50E-01	6.50E-01	---	6.50E-01
Bromomethane	1.0E+03	---	---	1.03E+03	---	1.03E+03
Butanol	7.3E+04	---	---	7.35E+04	---	7.35E+04
Carbon disulfide	7.3E+04	---	---	7.35E+04	---	7.35E+04
Carbon tetrachloride	4.2E+02	3.67E+00	1.20E+00	1.20E+00	---	1.20E+00
Chlorobenzene	1.5E+04	2.90E-01	8.20E-01	2.90E-01	---	2.90E-01
Chloroethane	2.9E+05	---	---	2.94E+05	---	2.94E+05
Chloroform	7.3E+03	4.30E+00	---	4.30E+00	---	4.30E+00
Chloromethane	4.2E+03	8.74E+00	---	8.74E+00	---	8.74E+00
cis-1,2-Dichloroethene	7.3E+03	---	---	7.35E+03	---	7.35E+03
cis-1,3-Dichloropropene	7.3E+01	---	---	7.35E+01	---	7.35E+01
Dibromochloromethane	6.5E+02	---	---	6.49E+02	---	6.49E+02
Dibromomethane	7.3E+03	---	---	7.27E+03	---	7.27E+03
Dichlorodifluoromethane	1.5E+05	---	---	1.47E+05	---	1.47E+05
Ethylbenzene	7.3E+04	6.50E-01	3.60E+00	6.50E-01	---	6.50E-01
Hexachlorobutadiene	3.1E+01	2.00E-02	---	2.00E-02	---	2.00E-02

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	Tot Sed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Isopropylbenzene (Cumene)	7.3E+04	---	---	7.35E+04	---	7.35E+04
Methyl acetate	7.3E+05	---	---	7.35E+05	---	7.35E+05
Methyl iodide	1.0E+03	---	---	1.03E+03	---	1.03E+03
Methylcyclohexane	1.0E+06	---	---	1.00E+06	---	1.00E+06
Methylene chloride	7.3E+03	3.82E+00	---	3.82E+00	---	3.82E+00
Naphthalene	2.5E+03	1.60E-01	1.60E-01	1.60E-01	---	1.60E-01
n-Butylbenzene	6.1E+03	---	---	6.12E+03	---	6.12E+03
n-Propylbenzene	2.9E+04	---	---	2.94E+04	---	2.94E+04
o-Xylene	1.0E+06	---	---	1.00E+06	---	1.00E+06
sec-Butylbenzene	2.9E+04	---	---	2.94E+04	---	2.94E+04
Styrene	1.5E+05	3.72E+00	---	3.72E+00	---	3.72E+00
tert-Butyl methyl ether (MTBE)	7.3E+03	---	---	7.35E+03	---	7.35E+03
tert-Butylbenzene	2.9E+04	---	---	2.94E+04	---	2.94E+04
Tetrachloroethene	1.0E+03	3.10E+00	5.30E-01	5.30E-01	---	5.30E-01
Toluene	5.9E+04	9.40E-01	6.70E-01	6.70E-01	---	6.70E-01
trans-1,2-Dichloroethene	1.5E+04	---	---	1.47E+04	---	1.47E+04
trans-1,3-Dichloropropene	5.4E+02	---	---	5.45E+02	---	5.45E+02
Trichloroethene	4.4E+03	1.47E+00	1.60E+00	1.47E+00	---	1.47E+00
Trichlorofluoromethane	2.2E+05	---	---	2.20E+05	---	2.20E+05
Trichlorotrifluoroethane	1.0E+06	---	---	1.00E+06	---	1.00E+06
Vinyl acetate	7.3E+05	---	---	7.35E+05	---	7.35E+05
Vinyl chloride	3.6E+01	---	---	3.63E+01	---	3.63E+01
Xylene (total)	1.5E+05	2.54E+00	---	2.54E+00	---	2.54E+00
SVOCs						
1,2Diphenylhydrazine/Azobenzen	1.3E+02	---	---	1.3E+02	---	1.30E+02
2,4,5-Trichlorophenol	1.5E+04	---	---	1.53E+04	---	1.53E+04
2,4,6-Trichlorophenol	1.3E+03	---	---	1.29E+03	---	1.29E+03
2,4-Dichlorophenol	4.6E+02	---	---	4.59E+02	---	4.59E+02
2,4-Dimethylphenol	3.1E+03	---	---	3.06E+03	---	3.06E+03
2,4-Dinitrophenol	3.1E+02	---	---	3.06E+02	---	3.06E+02
2,4-Dinitrotoluene	2.1E+01	---	---	2.09E+01	---	2.09E+01
2,6-Dinitrotoluene	2.1E+01	---	---	2.09E+01	---	2.09E+01
2-Chloronaphthalene	9.9E+03	---	---	9.90E+03	---	9.90E+03
2-Chlorophenol	3.7E+03	---	---	3.67E+03	---	3.67E+03
2-Methylnaphthalene	4.9E+02	7.00E-02	7.00E-02	7.00E-02	---	7.00E-02
2-Nitroaniline	4.6E+01	---	---	4.59E+01	---	4.59E+01
2-Nitrophenol	3.1E+02	---	---	3.06E+02	---	3.06E+02

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
3,3'-Dichlorobenzidine	3.2E+01	---	---	3.16E+01	---	3.16E+01
3-Nitroaniline	4.6E+01	---	---	4.59E+01	---	4.59E+01
4,6-Dinitro-2-methylphenol	3.1E+02	---	---	3.06E+02	---	3.06E+02
4-Bromophenyl phenyl ether	9.5E-01	---	1.30E+00	9.47E-01	---	9.47E-01
4-Chloro-3-methylphenol	7.7E+02	---	---	7.65E+02	---	7.65E+02
4-Chloroaniline	6.1E+02	---	---	6.12E+02	---	6.12E+02
4-Chlorophenyl phenyl ether	9.5E-01	---	---	9.47E-01	---	9.47E-01
4-Nitroaniline	3.7E+02	---	---	3.74E+02	---	3.74E+02
4-Nitrophenol	3.1E+02	---	---	3.06E+02	---	3.06E+02
Acenaphthene	7.4E+03	1.60E-02	1.60E-02	1.60E-02	---	1.60E-02
Acenaphthylene	7.4E+03	4.40E-02	4.40E-02	4.40E-02	---	4.40E-02
Acetophenone	1.5E+04	---	---	1.53E+04	---	1.53E+04
Aniline	1.1E+03	---	---	1.07E+03	---	1.07E+03
Anthracene	3.7E+04	8.53E-02	8.53E-02	8.53E-02	---	8.53E-02
Atrazine (Aatrex)	6.4E+01	---	---	6.40E+01	---	6.40E+01
Benzaldehyde	7.3E+04	---	---	7.35E+04	---	7.35E+04
Benidine	6.2E-02	---	---	6.18E-02	---	6.18E-02
Benzo(a)anthracene	1.6E+01	2.61E-01	2.61E-01	2.61E-01	---	2.61E-01
Benzo(a)pyrene	1.6E+00	4.30E-01	4.30E-01	4.30E-01	---	4.30E-01
Benzo(b)fluoranthene	1.6E+01	---	---	1.59E+01	---	1.59E+01
Benzo(g,h,i)perylene	3.7E+03	---	---	3.71E+03	---	3.71E+03
Benzo(k)fluoranthene	1.6E+02	---	---	1.59E+02	---	1.59E+02
Benzoic acid	6.1E+05	---	---	6.12E+05	---	6.12E+05
Benzyl alcohol	4.6E+04	---	---	4.59E+04	---	4.59E+04
Biphenyl	7.7E+03	---	1.10E+00	1.10E+00	---	1.10E+00
Bis(2-Chloroethoxy)methane	1.3E+01	---	---	1.29E+01	---	1.29E+01
Bis(2-Chloroethyl)ether	5.0E+01	---	---	4.95E+01	---	4.95E+01
Bis(2-Chloroisopropyl)ether	2.0E+02	---	---	2.03E+02	---	2.03E+02
Bis(2-Ethylhexyl)phthalate	2.4E+02	1.82E-01	1.82E-01	1.82E-01	---	1.82E-01
Butyl benzyl phthalate	3.1E+04	---	1.10E+01	1.10E+01	---	1.10E+01
Caprolactam	7.7E+04	---	---	7.65E+04	---	7.65E+04
Carbazole	7.1E+02	---	---	7.10E+02	---	7.10E+02
Chrysene	1.6E+03	3.84E-01	3.84E-01	3.84E-01	---	3.84E-01
Dibenz(a,h)anthracene	1.6E+00	6.34E-02	6.34E-02	6.34E-02	---	6.34E-02
Dibenzofuran	6.1E+02	---	2.00E+00	2.00E+00	---	2.00E+00
Diethyl phthalate	1.2E+05	---	6.30E-01	6.30E-01	---	6.30E-01
Dimethyl phthalate	1.2E+05	---	---	1.22E+05	---	1.22E+05

TABLE 2 - EXTENT EVALUATION COMPARISON VALUES - INTRACOASTAL WATERWAY SEDIMENTS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Di-n-butyl phthalate	1.5E+04	---	1.10E+01	1.10E+01	---	1.10E+01
Di-n-octyl phthalate	3.1E+03	---	---	3.06E+03	---	3.06E+03
Fluoranthene	4.9E+03	6.00E-01	6.00E-01	6.00E-01	---	6.00E-01
Fluorene	4.9E+03	1.90E-02	1.90E-02	1.90E-02	---	1.90E-02
Hexachlorobenzene	8.9E+00	---	---	8.88E+00	---	8.88E+00
Hexachlorocyclopentadiene	9.2E+02	---	---	9.19E+02	---	9.19E+02
Hexachloroethane	1.5E+02	---	1.00E+00	1.00E+00	---	1.00E+00
Indeno(1,2,3-cd)pyrene	1.6E+01	---	---	1.59E+01	---	1.59E+01
Isophorone	1.5E+04	---	---	1.50E+04	---	1.50E+04
Nitrobenzene	7.7E+01	---	---	7.65E+01	---	7.65E+01
n-Nitrosodimethylamine	1.1E+00	---	---	1.07E+00	---	1.07E+00
n-Nitrosodi-n-propylamine	6.3E-01	---	---	6.31E-01	---	6.31E-01
n-Nitrosodiphenylamine	9.0E+02	---	---	9.01E+02	---	9.01E+02
o-Cresol	7.7E+03	---	---	7.65E+03	---	7.65E+03
Pentachlorophenol	5.6E+01	---	---	5.61E+01	---	5.61E+01
Phenanthrene	3.7E+03	2.40E-01	2.40E-01	2.40E-01	---	2.40E-01
Phenol	4.6E+04	---	---	4.59E+04	---	4.59E+04
Pyrene	3.7E+03	6.65E-01	6.65E-01	6.65E-01	---	6.65E-01
Pyridine	7.3E+02	---	---	7.35E+02	---	7.35E+02
Chloride	---	---	---	NV	NV	NV
Sulfate	---	---	---	NV	NV	NV
Total Moisture	---	---	---	NV	NV	NV
Total Organic Carbon	---	---	---	NV	NV	NV

Notes

1. All values in mg/kg.
2. Values from Table 21 of RI/FS Work Plan (updated to reflect changes since 2005 where applicable)
3. TotSed_{Comb} PCL = TCEQ Protective Concentration Level for total sediment combined pathway (includes inhalation; ingestion; dermal pathways).
4. From Table 3-3 of TCEQ "Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas".
5. From Table 2 of EPA "Ecotox Thresholds" ECO Update January 1996.
6. 95% UTL calculated from site-specific background samples.
7. Value listed is for total Chlordane.
8. NV = No Preliminary Screening Value.

TABLE 3 - DETECTED INTRACOASTAL WATERWAY SEDIMENT CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES

Sample Location	Date	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
IWSE01	6/26/2006	4,4'-DDT	0.00332J	0.00119
IWSE03	6/26/2006	Acenaphthene	0.0631J	0.016
		Benzo(a)anthracene	0.395	0.261
		Benzo(a)pyrene	0.445	0.43
		Chrysene	0.475J	0.384
		Dibenz(a,h)anthracene	0.151	0.0634
		Fluoranthene	0.804J-	0.6
		Fluorene	0.046J	0.019
		Phenanthrene	0.508	0.24
		Pyrene	0.862	0.665
IWSE04	6/26/2006	Dibenz(a,h)anthracene	0.0694J	0.0634
IWSE05	6/26/2006	Fluorene	0.0241J	0.019
IWSE07	6/26/2006	Acenaphthene	0.0239J	0.016
		Dibenz(a,h)anthracene	0.235	0.0634
		Fluorene	0.0277J	0.019

Notes:

(1) Extent Evaluation Comparison Values from Table 2.

(2) Data qualifiers: J = estimated value. J- = estimated value, biased low.

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
METALS ⁽⁵⁾			
Aluminum	---	---	NV
Antimony	6.40E-01	---	6.40E-01
Arsenic	1.40E-03	---	1.40E-03
Dissolved Arsenic		7.80E-02	7.80E-02
Barium	---	2.50E+01	2.50E+01
Beryllium	---	---	NV
Boron	---	---	NV
Dissolved Cadmium	---	1.00E-02	1.00E-02
Dissolved Chromium	2.22E+00	1.03E-01	1.03E-01
Dissolved Chromium (VI)	---	4.96E-02	4.96E-02
Cobalt	---	---	NV
Dissolved Copper	---	3.60E-03	3.60E-03
Ferric Iron	---	---	NV
Iron	---	---	NV
Dissolved Lead	1.69E-02	5.30E-03	5.30E-03
Lithium	---	---	NV
Manganese	1.00E-01	---	1.00E-01
Mercury	2.50E-05	1.10E-03	2.50E-05
Molybdenum	---	---	NV
Nickel	4.60E+00	---	4.60E+00
Dissolved Nickel		1.31E-02	1.31E-02
Selenium	4.20E+00	1.36E-01	1.36E-01
Dissolved Silver	---	1.90E-04	1.90E-04
Strontium	---	---	NV
Thallium	4.70E-04	2.13E-02	4.70E-04
Tin	---	---	NV
Titanium	---	---	NV
Vanadium	---	---	NV
Zinc	2.60E+01	---	2.60E+01
Dissolved Zinc	---	8.42E-02	8.42E-02

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
PESTICIDES			NV
4,4'-DDD	7.00E-06	2.50E-05	7.00E-06
4,4'-DDE	5.00E-06	1.40E-04	5.00E-06
4,4'-DDT	5.00E-06	1.00E-06	1.00E-06
Aldrin	2.80E-06	1.30E-04	2.80E-06
alpha-BHC	---	2.50E-02	2.50E-02
alpha-Chlordane	2.13E-05	---	2.13E-05
beta-BHC	---	---	NV
delta-BHC	---	---	NV
Dieldrin	---	2.00E-06	2.00E-06
Endosulfan I	8.90E-02	9.00E-06	9.00E-06
Endosulfan II	8.90E-02	9.00E-06	9.00E-06
Endosulfan sulfate	8.90E-02	9.00E-06	9.00E-06
Endrin	8.93E-04	2.00E-06	2.00E-06
Endrin aldehyde	3.00E-04	---	3.00E-04
Endrin ketone	---	---	NV
gamma-BHC (Lindane)	---	1.60E-05	1.60E-05
gamma-Chlordane	---	---	NV
Heptachlor	1.77E-06	4.00E-06	1.77E-06
Heptachlor epoxide	7.23E-04	3.60E-06	3.60E-06
Methoxychlor	1.48E-03	3.00E-05	3.00E-05
Toxaphene	9.00E-06	2.00E-07	2.00E-07
PCBs	8.85E-07	3.00E-05	8.85E-07
Aroclor-1016	---	---	NV
Aroclor-1221	---	---	NV
Aroclor-1232	---	---	NV
Aroclor-1242	---	---	NV
Aroclor-1248	---	---	NV
Aroclor-1254	---	---	NV
Aroclor-1260	---	---	NV

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
VOCs			
1,1,1,2-Tetrachloroethane	---	---	NV
1,1,1-Trichloroethane	---	1.56E+00	1.56E+00
1,1,2,2-Tetrachloroethane	4.00E-02	4.51E-01	4.00E-02
1,1,2-Trichloroethane	---	2.75E-01	2.75E-01
1,1-Dichloroethane	---	---	NV
1,1-Dichloroethene	---	1.25E+01	1.25E+01
1,1-Dichloropropene	---	---	NV
1,2,3-Trichloropropane	---	---	NV
1,2,4-Trichlorobenzene	7.00E-02	2.20E-02	2.20E-02
1,2,4-Trimethylbenzene	---	2.17E-01	2.17E-01
1,2-Dibromo-3-chloropropane	---	---	NV
1,2-Dibromoethane	2.23E-04	---	2.23E-04
1,2-Dichlorobenzene	1.30E+00	9.90E-02	9.90E-02
1,2-Dichloroethane	4.93E-02	5.65E+00	4.93E-02
1,2-Dichloroethene(Total)	---	6.80E-01	6.80E-01
1,2-Dichloropropane	1.50E-01	2.40E+00	1.50E-01
1,3,5-Trimethylbenzene	---	---	NV
1,3-Dichlorobenzene	9.60E-01	1.42E-01	1.42E-01
1,3-Dichloropropane	1.50E-01	---	1.50E-01
1,4-Dichlorobenzene	1.90E-01	9.90E-02	9.90E-02
2,2-Dichloropropane	---	---	NV
2-Butanone	---	---	NV
2-Chloroethylvinyl ether	---	---	NV
2-Chlorotoluene	---	---	NV
2-Hexanone	---	---	NV
4-Chlorotoluene	---	---	NV
4-Isopropyltoluene	---	---	NV
4-Methyl-2-pentanone	---	6.15E+01	6.15E+01

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
Acetone	---	2.82E+02	2.82E+02
Acrolein	2.90E-01	5.00E-03	5.00E-03
Acrylonitrile	7.30E-03	2.91E-01	7.30E-03
Benzene	7.08E-02	1.09E-01	7.08E-02
Bromobenzene	---	---	NV
Bromodichloromethane	---	---	NV
Bromoform	1.40E+00	1.22E+00	1.22E+00
Bromomethane	---	6.00E-01	6.00E-01
Butanol	---	---	NV
Carbon disulfide	---	---	NV
Carbon tetrachloride	5.60E-03	1.50E+00	5.60E-03
Chlorobenzene	9.20E-01	1.05E-01	1.05E-01
Chloroethane	---	---	NV
Chloroform	8.61E-01	4.10E+00	8.61E-01
Chloromethane	---	1.35E+01	1.35E+01
cis-1,2-Dichloroethene	---	6.80E-01	6.80E-01
cis-1,3-Dichloropropene	1.07E-01	---	1.07E-01
Cyclohexane	---	---	NV
Dibromochloromethane	4.77E-02	---	4.77E-02
Dibromomethane	---	---	NV
Dichlorodifluoromethane	---	---	NV
Ethylbenzene	2.10E+00	2.49E-01	2.49E-01
Hexachlorobutadiene	2.40E-03	3.20E-04	3.20E-04
Isopropylbenzene (Cumene)	---	---	NV
m,p-Xylene	---	---	NV
Methyl acetate	---	---	NV
Methyl iodide	---	---	NV
Methylcyclohexane	---	---	NV
Methylene chloride	5.90E+00	5.42E+00	5.42E+00
Naphthalene	---	1.25E-01	1.25E-01
n-Butylbenzene	---	---	NV

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
n-Propylbenzene	---	---	NV
o-Xylene	---	---	NV
sec-Butylbenzene	---	---	NV
Styrene	---	4.55E-01	4.55E-01
tert-Butyl methyl ether (MTBE)	---	---	NV
tert-Butylbenzene	---	---	NV
Tetrachloroethene	---	1.45E+00	1.45E+00
Toluene	1.50E+01	4.80E-01	4.80E-01
trans-1,2-Dichloroethene	---	6.80E-01	6.80E-01
trans-1,3-Dichloropropene	1.07E-01	---	1.07E-01
trans-1,4-Dichloro-2-butene	---	---	NV
Trichloroethene	---	9.70E-01	9.70E-01
Trichlorofluoromethane	---	---	NV
Trichlorotrifluoroethane	---	---	NV
Vinyl acetate	---	---	NV
Vinyl chloride	2.77E-01	---	2.77E-01
Xylene (total)	---	8.50E-01	8.50E-01
SVOCs			
1,2-Diphenylhydrazine/Azobenzen	2.00E-03	---	2.00E-03
2,4,5-Trichlorophenol	7.12E-01	1.20E-02	1.20E-02
2,4,6-Trichlorophenol	2.40E-02	6.10E-02	2.40E-02
2,4-Dichlorophenol	2.90E-01	---	2.90E-01
2,4-Dimethylphenol	8.50E-01	---	8.50E-01
2,4-Dinitrophenol	5.30E+00	6.70E-01	6.70E-01
2,4-Dinitrotoluene	3.40E-02	---	3.40E-02
2,6-Dinitrotoluene	---	---	NV
2-Chloronaphthalene	1.60E+00	---	1.60E+00
2-Chlorophenol	1.50E-01	2.65E-01	1.50E-01
2-Methylnaphthalene	---	3.00E-02	3.00E-02
2-Nitroaniline	---	---	NV
2-Nitrophenol	---	1.47E+00	1.47E+00
3,3'-Dichlorobenzidine	2.80E-04	3.70E-02	2.80E-04
3-Nitroaniline	---	---	NV
4,6-Dinitro-2-methylphenol	---	---	NV

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
4-Bromophenyl phenyl ether	---	---	NV
4-Chloro-3-methylphenol	---	---	NV
4-Chloroaniline	---	---	NV
4-Chlorophenyl phenyl ether	---	---	NV
4-Nitroaniline	---	---	NV
4-Nitrophenol	---	3.59E-01	3.59E-01
Acenaphthene	9.90E-01	4.04E-02	4.04E-02
Acenaphthylene	---	---	NV
Acetophenone	---	---	NV
Aniline	---	---	NV
Anthracene	4.00E+01	1.80E-04	1.80E-04
Atrazine (Aatrex)	---	---	NV
Benzaldehyde	---	---	NV
Benidine	---	---	NV
Benzo(a)anthracene	---	---	NV
Benzo(a)pyrene	---	---	NV
Benzo(b)fluoranthene	---	---	NV
Benzo(g,h,i)perylene	---	---	NV
Benzo(k)fluoranthene	---	---	NV
Benzoic acid	---	---	NV
Benzyl alcohol	---	---	NV
Biphenyl	---	---	NV
Bis(2-Chloroethoxy)methane	---	---	NV
Bis(2-Chloroethyl)ether	---	---	NV
Bis(2-Chloroisopropyl)ether	---	---	NV
Bis(2-Ethylhexyl)phthalate	---	---	NV
Butyl benzyl phthalate	1.90E+00	1.47E-01	1.47E-01
Caprolactam	---	---	NV
Carbazole	---	---	NV
Chrysene	---	---	NV
Dibenz(a,h)anthracene	---	---	NV
Dibenzofuran	---	6.50E-02	6.50E-02
Diethyl phthalate	4.40E+01	4.42E-01	4.42E-01
Dimethyl phthalate	1.10E+03	5.80E-01	5.80E-01

TABLE 4 - SURFACE WATER EXTENT EVALUATION COMPARISON VALUES ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 20 of RI/FS Work Plan ⁽²⁾		Extent Evaluation Comparison Value
	Human Health Surface Water Risk Based Exposure Limits (^{SW} RBELs) Saltwater Fish Only ⁽³⁾	TCEQ Ecological Benchmark for Water ⁽⁴⁾	
Di-n-butyl phthalate	4.50E+00	5.00E-03	5.00E-03
Di-n-octyl phthalate	---	---	NV
Fluoranthene	1.40E-01	2.96E-03	2.96E-03
Fluorene	5.30E+00	5.00E-02	5.00E-02
Hexachlorobenzene	---	---	NV
Hexachlorocyclopentadiene	1.10E+00	7.00E-05	7.00E-05
Hexachloroethane	1.85E-01	9.40E-03	9.40E-03
Indeno(1,2,3-cd)pyrene	---	---	NV
Isophorone	9.60E+00	6.50E-01	6.50E-01
m,p-Cresol	---	---	NV
Nitrobenzene	1.56E-01	6.68E-02	6.68E-02
n-Nitrosodimethylamine	3.00E-02	1.65E+02	3.00E-02
n-Nitrosodi-n-propylamine	5.10E-03	1.20E-01	5.10E-03
n-Nitrosodiphenylamine	6.00E-02	1.65E+02	6.00E-02
o-Cresol	8.74E+00	5.10E-01	5.10E-01
Pentachlorophenol	9.00E-02	9.60E-03	9.60E-03
Phenanthrene	---	4.60E-03	4.60E-03
Phenol	1.70E+03	2.75E+00	2.75E+00
Pyrene	4.00E+00	2.40E-04	2.40E-04
Pyridine	8.89E+00	---	8.89E+00
Chloride	---	---	NV
Sulfate	---	---	NV
Total Dissolved Solids(TDS)	---	---	NV
Total Suspended Solids	---	---	NV
Total Organic Carbon	---	---	NV
Hardness	---	---	NV

Notes:

1. All values in mg/L.
2. Values from Table 20 of RI/FS Work Plan (updated to reflect changes since 2005 where applicable).
3. From TCEQ Aquatic Life Surface Water RBEL Table and Human Health Surface Water RBEL Table.
4. From Table 3-2 of TCEQ "Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas."
5. Metals values are for total concentrations unless indicated otherwise.
6. NV = No Preliminary Screening Value.

TABLE 5 - FISH TISSUE DATA

Sample ID	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo (a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h) anthracene (mg/kg)	Hexachloro benzene (mg/kg)	Indeno(1,2,3- cd)pyrene (mg/kg)	Lead (mg/kg)	Silver (mg/kg)	% Moisture	% Lipids
BLUE CRAB														
IW-BC-00401	<0.00723	<0.00578	<0.056	<0.035	<0.045	<0.038	<0.029	<0.047	<0.056	<0.023	<0.19	<0.053	80.1	0.07
IW-BC-00402	<0.00716	<0.00572	<0.584	<0.359	<0.467	<0.392	<0.298	<0.494	<0.58	<0.235	<0.19	<0.053	81	0.1
IW-BC-00403	<0.00745	<0.00595	<0.056	<0.035	<0.045	<0.038	<0.029	<0.047	<0.056	<0.023	<0.19	<0.053	81.3	0.33
IW-BC-00404	<0.00738	<0.00589	<0.057	<0.035	<0.045	<0.038	<0.029	<0.048	<0.056	<0.023	<0.19	<0.053	78.8	0.08
IW-BC-00405	<0.00723	<0.00578	<0.057	<0.035	<0.046	<0.038	<0.029	<0.048	<0.056	<0.023	<0.19	<0.053	80.5	0.2
IW-BC-00406	<0.0073	<0.00583	<0.057	<0.352	<0.458	<0.384	<0.029	<0.484	<0.056	<0.023	<0.19	<0.053	79.9	0.02
IW-BC-00409	<0.00738	<0.00589	<0.567	<0.348	<0.453	<0.38	<0.289	<0.479	<0.562	<0.229	<0.19	0.11 J	80	0.04
IW-BC-00410	<0.0073	<0.00583	<0.561	<0.345	<0.449	<0.377	<0.286	<0.475	<0.558	<0.226	<0.19	0.078 J	83.3	0.02
IW-BC-00411	<0.00745	<0.00595	<0.058	<0.036	<0.047	<0.039	<0.03	<0.049	<0.058	<0.024	<0.19	<0.053	79.9	0.01
RED DRUM														
IW-RD-00001	<0.0073	<0.00583	<0.058	<0.036	<0.047	<0.039	<0.03	<0.049	<0.058	<0.024	<0.19	<0.053	76.6	0.06
IW-RD-00002	<0.00716	<0.00572	<0.057	<0.035	<0.046	<0.038	<0.029	<0.048	<0.056	<0.023	<0.19	<0.053	80.7	0.12
IW-RD-00003	<0.00723	<0.00578	<0.584	<0.359	<0.467	<0.392	<0.298	<0.494	<0.58	<0.235	<0.19	<0.053	79	2.77
IW-RD-00004	<0.00745	<0.00595	<0.567	<0.348	<0.453	<0.38	<0.289	<0.479	<0.562	<0.229	<0.19	<0.053	81.8	0.03
IW-RD-00005	<0.0073	<0.00583	<0.567	<0.348	<0.453	<0.38	<0.289	<0.479	<0.562	<0.229	<0.19	<0.053	78.7	0.16
IW-RD-00006	<0.00745	<0.00595	<0.572	<0.352	<0.458	<0.384	<0.292	<0.484	<0.568	<0.231	<0.19	<0.053	79.6	0.01
SOUTHERN FLOUNDER														
IW-SF-00301	<0.00745	<0.00595	<0.058	<0.036	<0.046	<0.039	<0.029	<0.049	<0.058	<0.023	<0.19	0.22 J	78	0.49
IW-SF-00302	<0.0073	<0.00583	<0.056	<0.035	0.048 J	<0.038	<0.029	<0.047	<0.056	<0.023	<0.19	<0.053	78.6	1.24
IW-SF-00303	<0.0073	<0.00583	<0.057	<0.352	<0.458	<0.384	<0.029	<0.484	<0.056	<0.023	<0.19	<0.053	77.3	1.24
IW-SF-00304	<0.00723	<0.00578	<0.057	<0.348	<0.453	<0.38	<0.029	<0.479	<0.056	<0.023	<0.19	<0.053	77.8	2.19
IW-SF-00305	<0.00738	<0.00589	<0.561	<0.345	<0.449	<0.377	<0.286	<0.475	<0.558	<0.226	<0.19	<0.053	78.9	0.1
IW-SF-00306	<0.00745	<0.00595	<0.584	<0.359	<0.467	<0.392	<0.298	<0.494	<0.58	<0.235	<0.19	<0.053	77.7	0.1
IW-SF-00307	<0.00745	<0.00595	<0.561	<0.345	<0.449	<0.377	<0.286	<0.475	<0.558	<0.226	<0.19	<0.053	79.1	0.08
IW-SF-00308	<0.00716	<0.00572	<0.578	<0.355	<0.462	<0.388	<0.295	<0.489	<0.574	<0.233	<0.19	<0.053	78.3	0.06
IW-SF-00309	<0.00738	<0.00589	<0.584	<0.359	<0.467	<0.392	<0.298	<0.494	<0.58	<0.235	<0.19	<0.053	77.4	0.06
SPECKLED TROUT														
IW-ST-00101	<0.00745	<0.00595	<0.057	<0.035	<0.045	<0.038	<0.029	<0.048	<0.056	<0.023	<0.19	<0.053	77.9	0.08
IW-ST-00102	<0.00745	<0.00595	<0.058	<0.036	0.049 J	<0.039	<0.03	<0.049	<0.058	<0.024	<0.19	<0.053	73	1.13
IW-ST-00103	<0.00738	<0.00589	<0.058	<0.036	<0.047	<0.039	<0.03	<0.049	<0.058	<0.024	<0.19	<0.053	76.2	0.31
IW-ST-00104	0.012	<0.00589	<0.058	<0.359	<0.467	<0.392	<0.03	<0.494	<0.058	<0.024	<0.19	0.18 J	76.4	1.02
IW-ST-00105	<0.00745	<0.00595	<0.057	<0.352	<0.458	<0.384	<0.029	<0.484	<0.056	<0.023	<0.19	<0.053	73.6	1.41
IW-ST-00106	<0.00716	<0.00572	<0.056	<0.345	<0.449	<0.377	<0.029	<0.475	<0.056	<0.023	<0.19	<0.053	75.3	0.72
IW-ST-00107	<0.00738	<0.00589	<0.058	<0.036	<0.046	<0.039	<0.029	<0.049	<0.058	<0.023	<0.19	<0.053	77.1	2.87
IW-ST-00108	<0.00723	<0.00578	<0.058	<0.036	<0.046	<0.039	<0.029	<0.049	<0.058	<0.023	<0.19	<0.053	75.1	0.79
IW-ST-00109	0.016 J	<0.00595	<0.057	<0.176	<0.229	<0.192	<0.029	<0.242	<0.056	<0.023	<0.19	<0.053	75	0.49

TABLE 5 - FISH TISSUE DATA

Sample ID	4,4'-DDE (mg/kg)	4,4'-DDT (mg/kg)	Benzo(a) anthracene (mg/kg)	Benzo (a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h) anthracene (mg/kg)	Hexachloro benzene (mg/kg)	Indeno(1,2,3- cd)pyrene (mg/kg)	Lead (mg/kg)	Silver (mg/kg)	% Moisture	% Lipids
DUPLICATES														
IW-BC-00405 (DUP)	0.011	<0.00578	<0.057	<0.035	<0.045	<0.038	<0.029	<0.048	<0.056	<0.023	<0.19	0.067 J	80.7	0.02
IW-SF-00302 (DUP)	<0.00723	<0.00578	<0.056	<0.035	0.049 J	<0.038	<0.029	<0.047	<0.056	<0.023	<0.19	<0.053	79.2	0.07
IW-ST-00105 (DUP)	<0.00723	<0.00578	<0.058	<0.359	<0.467	<0.392	<0.03	<0.494	<0.058	<0.024	0.24 J	<0.053	72.1	0.36

Notes:

1. Data Qualifier: J = estimated value.
2. All concentrations reported on a wet weight basis.

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾								Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾	PSV	TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
METALS											
Aluminum	7.6E+04	6.4E+04 ⁽¹³⁾	1E+06 ⁽¹³⁾	---	---	---	---	6.4E+04	3.0E+04	---	6.4E+04
Antimony	3.1E+01	1.5E+01	2.7E+02	---	---	2.7E-01 ***	5.0E+00 +	2.7E-01	1.0E+00	---	1.0E+00
Arsenic	3.9E-01	2.4E+01	2.5E+02	---	---	1.8E+01	1.8E+01 +	3.9E-01	5.9E+00	8.7E+00	8.7E+00
Barium	5.5E+03	7.8E+03 ⁽¹³⁾	2.2E+04	---	---	3.3E+02 *	3.3E+02	3.3E+02	3.0E+02	4.6E+02	4.6E+02
Beryllium	1.5E+02	3.8E+01	9.2E+01	---	---	2.1E+01 ***	1.0E+01 +	1.0E+01	1.5E+00	---	1.0E+01
Boron	1.6E+04	1.6E+04	---	---	---	---	5.0E-01 +	5.0E-01	3.0E+01	---	3.0E+01
Cadmium	3.9E+01	5.2E+01	7.5E+01	---	---	3.6E-01 ***	3.2E+01 +	3.6E-01	---	---	3.6E-01
Chromium	---	2.3E+04	1.2E+05	---	---	---	4.0E-01	4.0E-01	3.0E+01	2.4E+01	3.0E+01
Chromium (VI)	3.0E+01	1.2E+02	1.4E+03	---	---	8.1E+01 ***	---	3.0E+01	---	---	3.0E+01
Cobalt	9.0E+02	3.8E+03 ⁽¹³⁾	6.6E+04 ⁽¹³⁾	---	---	1.3E+01	1.3E+01 +	1.3E+01	7.0E+00	---	1.3E+01
Copper	2.9E+03	5.5E+02	5.2E+04	---	---	---	6.1E+01	6.1E+01	1.5E+01	2.4E+01	6.1E+01
Iron	5.3E+04 ⁽¹⁴⁾	---	---	---	---	---	---	5.3E+04 ⁽¹⁴⁾	1.5E+04	---	5.3E+04
Lead	4.0E+02	5.0E+02	1.5E+02	---	---	1.1E+01 **	1.2E+02 +	1.1E+01	1.5E+01	1.8E+01	1.8E+01
Lithium	1.6E+03	1.3E+03	---	---	---	---	2.0E+00 +	2.0E+00	---	3.6E+01	3.6E+01
Manganese	3.2E+03	3.4E+03	5.8E+04	---	---	---	5.0E+02 +	5.0E+02	3.0E+02	6.5E+02	6.5E+02
Mercury	2.3E+01	2.1E+00	3.9E-01	2.4E+00	1.8E+00	---	1.0E-01	1.0E-01	4.0E-02	3.5E-02	1.0E-01
Molybdenum	3.9E+02	1.6E+02	2.5E+03	---	---	---	2.0E+00 +	2.0E+00	---	7.4E-01	2.0E+00
Nickel	1.6E+03	8.3E+02	7.9E+03	---	---	---	3.0E+01 +	3.0E+01	1.0E+01	---	3.0E+01
Selenium	3.9E+02	3.1E+02	1.1E+02	---	---	---	1.0E+00 +	1.0E+00	3.0E-01	---	1.0E+00
Silver	3.9E+02	9.5E+01	2.4E+01	---	---	---	2.0E+00 +	2.0E+00	---	---	2.0E+00
Strontium	4.7E+04	4.4E+04	3.1E+04	---	---	---	---	3.1E+04	1.0E+02	---	3.1E+04
Thallium	---	6.3E+00	8.7E+01	---	---	---	1.0E+00 +	1.0E+00	9.3E+00	---	9.3E+00
Tin	---	3.5E+04	1.0E+06	---	---	---	5.0E+01 +	5.0E+01	9.0E-01	---	5.0E+01
Titanium	---	1.0E+06	---	---	---	---	---	1.0E+06	2.0E+03	---	1.0E+06
Vanadium	7.8E+01	2.9E+02	1.7E+05	---	---	7.8E+00 **	2.0E+00 +	2.0E+00	5.0E+01	---	5.0E+01
Zinc	2.3E+04	9.9E+03	1.2E+05	---	---	---	1.2E+02	1.2E+02	3.0E+01	2.8E+02	2.8E+02
PESTICIDES											
4,4'-DDD	2.4E+00	1.4E+01	6.5E+02	---	---	---	---	2.4E+00	---	---	2.4E+00
4,4'-DDE	1.7E+00	1.0E+01	5.9E+02	---	---	---	---	1.7E+00	---	---	1.7E+00
4,4'-DDT	1.7E+00	5.4E+00	7.4E+02	6.2E+02	2.2E+05	---	---	1.7E+00	---	---	1.7E+00
Aldrin	2.9E-02	5.0E-02	5.1E+00	4.3E+00	5.5E+02	---	---	2.9E-02	---	---	2.9E-02
alpha-BHC	9.0E-02	2.5E-01	4.0E-01	7.2E+00	5.4E+02	---	---	9.0E-02	---	---	9.0E-02
beta-BHC	3.2E-01	9.2E-01 ⁽¹³⁾	1.4E+00 ⁽¹³⁾	3.7E+01 ⁽¹³⁾	4.2E+03 ⁽¹³⁾	---	---	3.2E-01	---	---	3.2E-01
alpha-Chlordane	---	1.3E+01 ⁽¹³⁾	3.7E+04 ⁽¹³⁾	2.1E+03 ⁽¹³⁾	1.0E+06 ⁽¹³⁾	---	---	1.3E+01 ⁽¹³⁾	---	---	1.3E+01 ⁽¹³⁾
delta-BHC	---	2.9E+00	8.7E+00	5.2E+01	8.0E+03	---	---	2.9E+00	---	---	2.9E+00
Dieldrin	3.0E-02	1.5E-01	2.4E+00	1.6E+01	7.0E+03	3.2E-05 ***	---	3.2E-05	---	---	3.2E-05
Endosulfan I	---	4.7E+01	1.5E+03	9.6E+01	3.7E+04	---	---	4.7E+01	---	---	4.7E+01
Endosulfan II	---	2.7E+02	4.6E+03	---	---	---	---	2.7E+02	---	---	2.7E+02
Endosulfan sulfate	---	3.8E+02	2.3E+05	---	---	---	---	3.8E+02	---	---	3.8E+02

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾								Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	Tot Soil _{Comb} ⁽⁴⁾	GW Soil _{Class 3} ⁽⁵⁾	Air Soil _{Inh-V} ⁽⁶⁾	Air GW Soil _{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾	PSV	TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
2-Chlorotoluene	1.6E+02	8.3E+02	4.5E+02	2.2E+03	9.2E+03	---	---	1.6E+02	---	---	1.6E+02
2-Hexanone	---	5.6E+01	1.9E+02	5.7E+01	2.6E+02	---	---	5.6E+01	---	---	5.6E+01
4-Chlorotoluene	---	2.5E+00	1.9E+03 ⁽¹³⁾	2.5E+00	1.1E+01	---	---	2.5E+00	---	---	2.5E+00
4-Isopropyltoluene	---	2.5E+03	1.2E+04	3.5E+03	2.8E+04	---	---	2.5E+03	---	---	2.5E+03
4-Methyl-2-pentanone	5.8E+03	5.4E+03	2.5E+02	3.0E+04	1.1E+05	---	---	2.5E+02	---	---	2.5E+02
Acetone	7.0E+04	5.4E+03	2.1E+03	5.8E+03	3.2E+04	---	---	2.1E+03	---	---	2.1E+03
Acrolein	1.0E-01	5.7E-01	1.2E+00	5.8E-01	8.8E+00	---	---	1.0E-01	---	---	1.0E-01
Acrylonitrile	2.1E-01	2.2E+00	1.7E-01	2.7E+00	7.4E+00	---	---	1.7E-01	---	---	1.7E-01
Benzene	6.6E-01	4.8E+01 ⁽¹³⁾	1.3E+00	8.4E+01 ⁽¹³⁾	6.0E+01 ⁽¹³⁾	---	---	6.6E-01	---	---	6.6E-01
Bromobenzene	7.3E+01	7.9E+01 ⁽¹³⁾	2.9E+02	8.3E+01 ⁽¹³⁾	2.9E+02 ⁽¹³⁾	---	---	7.3E+01	---	---	7.3E+01
Bromodichloromethane	1.0E+00	9.8E+01	3.3E+00	---	---	---	---	1.0E+00	---	---	1.0E+00
Bromoform	6.2E+01	2.8E+02	3.2E+01	4.3E+02	1.8E+03	---	---	3.2E+01	---	---	3.2E+01
Bromomethane	3.9E+00	2.9E+01	6.5E+00	3.9E+01	1.1E+01	---	---	3.9E+00	---	---	3.9E+00
Butanol	6.1E+03	1.8E+03	2.6E+02	2.3E+03	2.7E+04	---	---	2.6E+02	---	---	2.6E+02
Carbon disulfide	7.2E+02	3.3E+03	6.8E+02	5.5E+03	1.7E+03	---	---	6.8E+02	---	---	6.8E+02
Carbon tetrachloride	2.4E-01	9.7E+00	3.1E+00	1.2E+01	6.3E+00	---	---	2.4E-01	---	---	2.4E-01
Chlorobenzene	3.2E+02	3.2E+02 ⁽¹³⁾	5.5E+01	4.0E+02 ⁽¹³⁾	8.2E+02 ⁽¹³⁾	---	4.0E+01	4.0E+01	---	---	4.0E+01
Chloroethane	3.0E+00	2.3E+04	1.5E+03	7.9E+04	2.4E+04	---	---	3.0E+00	---	---	3.0E+00
Chloroform	2.5E-01	8.0E+00	5.1E+01	8.0E+00	5.4E+00	---	---	2.5E-01	---	---	2.5E-01
Chloromethane	1.3E+00	8.4E+01	2.0E+01	1.0E+02	1.4E+01	---	---	1.3E+00	---	---	1.3E+00
cis-1,2-Dichloroethene	4.3E+01	7.2E+02	1.2E+01	6.3E+03	3.7E+03	---	---	1.2E+01	---	---	1.2E+01
cis-1,3-Dichloropropene	---	7.1E+00	3.3E-01	5.3E+01	5.9E+01	---	---	3.3E-01	---	---	3.3E-01
Dibromochloromethane	1.0E+00	7.2E+01	2.5E+00	---	---	---	---	1.0E+00	---	---	1.0E+00
Dibromomethane	1.4E+02	1.4E+02	5.6E+01	1.4E+02	4.7E+02	---	---	5.6E+01	---	---	5.6E+01
Dichlorodifluoromethane	9.4E+01	1.2E+04	1.2E+04	3.9E+04	9.4E+03	---	---	9.4E+01	---	---	9.4E+01
Ethylbenzene	2.3E+02	4.0E+03	3.8E+02	7.9E+03	1.1E+04	---	---	2.3E+02	---	---	2.3E+02
Hexachlorobutadiene	6.2E+00	1.2E+01	1.6E+02 ⁽¹³⁾	1.5E+01	1.6E+02	---	---	6.2E+00	---	---	6.2E+00
Isopropylbenzene (Cumene)	3.7E+02	3.0E+03	1.7E+04	4.8E+03	4.0E+04	---	---	3.7E+02	---	---	3.7E+02
Methyl acetate	2.2E+04	4.5E+03	2.4E+03	4.7E+03	1.7E+04	---	---	2.4E+03	---	---	2.4E+03
Methyl iodide	---	5.2E+01	5.7E+00	9.5E+01	3.6E+01	---	---	5.7E+00	---	---	5.7E+00
Methylcyclohexane	1.4E+02	2.2E+04	7.8E+05	2.4E+04	1.2E+04	---	---	1.4E+02	---	---	1.4E+02
Methylene chloride	8.9E+00	2.6E+02	6.5E-01	3.9E+02	2.2E+02	---	---	6.5E-01	---	---	6.5E-01
Naphthalene	1.2E+02	1.2E+02	1.6E+03	1.4E+02	1.3E+03	---	---	1.2E+02	---	---	1.2E+02
n-Butylbenzene	1.4E+02	1.5E+03	6.1E+03	3.4E+03	2.9E+04	---	---	1.4E+02	---	---	1.4E+02
n-Propylbenzene	1.4E+02	1.6E+03	2.2E+03	3.3E+03	1.8E+04	---	---	1.4E+02	---	---	1.4E+02
o-Xylene	2.8E+02	5.6E+03 ⁽¹³⁾	3.5E+03	5.8E+03 ⁽¹³⁾	5.7E+04 ⁽¹³⁾	---	---	2.8E+02	---	---	2.8E+02
sec-Butylbenzene	1.1E+02	1.6E+03	4.2E+03	2.9E+03	2.2E+04	---	---	1.1E+02	---	---	1.1E+02
Styrene	1.7E+03	7.0E+03	1.6E+02	1.2E+04	6.8E+04	---	3.0E+02 +	1.6E+02	---	---	1.6E+02
tert-Butyl methyl ether (MTBE)	1.7E+01	5.9E+02	3.1E+01	7.1E+02	6.6E+02	---	---	1.7E+01	---	---	1.7E+01
tert-Butylbenzene	1.3E+02	1.4E+03	5.0E+03	2.4E+03	1.6E+04	---	---	1.3E+02	---	---	1.3E+02

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾								Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GW _{Soil} _{Class 3} ⁽⁵⁾	Air _{Soil} _{Inh-V} ⁽⁶⁾	Air _{GW} _{Soil} _{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾	PSV	TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
Tetrachloroethene	5.5E-01	8.5E+01	2.5E+00	3.2E+02	2.1E+02	---	---	5.5E-01	---	---	5.5E-01
Toluene	5.2E+02	5.6E+03 ⁽¹³⁾	4.1E+02	4.0E+04 ⁽¹³⁾	4.1E+04 ⁽¹³⁾	---	2.0E+02 +	2.0E+02	---	---	2.0E+02
trans-1,2-Dichloroethene	6.3E+01	3.7E+02 ⁽¹³⁾	2.5E+01	4.7E+02 ⁽¹³⁾	2.4E+02 ⁽¹³⁾	---	---	2.5E+01	---	---	2.5E+01
trans-1,3-Dichloropropene	---	2.6E+01	1.8E+00	4.6E+01	4.8E+01	---	---	1.8E+00	---	---	1.8E+00
trans-1,4-Dichloro-2-butene	---	1.7E-01	---	1.7E-01	6.9E-01	---	---	1.7E-01	---	---	1.7E-01
Trichloroethene	4.3E-02	9.1E+01	1.7E+00	1.1E+02	7.1E+01	---	---	4.3E-02	---	---	4.3E-02
Trichlorofluoromethane	3.9E+02	1.2E+04	6.4E+03	2.2E+04	4.6E+03	---	---	3.9E+02	---	---	3.9E+02
Trichlorotrifluoroethane	5.6E+03	2.2E+05	1.0E+06	2.4E+05	6.5E+04	---	---	5.6E+03	---	---	5.6E+03
Vinyl acetate	4.3E+02	1.5E+03	2.7E+03	1.6E+03	2.0E+03	---	---	4.3E+02	---	---	4.3E+02
Vinyl chloride	4.3E-02	3.4E+00	1.1E+00	2.1E+01	2.6E+00	---	---	4.3E-02	---	---	4.3E-02
Xylene (total)	2.1E+02	7.5E+02	6.1E+03	7.9E+02	1.3E+03	---	---	2.1E+02	---	---	2.1E+02
SVOCs											
1,2-Diphenylhydrazine/Azobenzen	6.1E-01	3.6E+01 ⁽¹³⁾	8.8E+02 ⁽¹³⁾	7.1E+02 ⁽¹³⁾	9.4E+04 ⁽¹³⁾	---	---	6.1E-01	---	---	6.1E-01
2,4,5-Trichlorophenol	6.1E+03	4.1E+03	1.7E+03	1.1E+04	4.1E+05	---	4.0E+00 +	4.0E+00	---	---	4.0E+00
2,4,6-Trichlorophenol	4.4E+01	6.7E+01 ⁽¹³⁾	8.8E+00 ⁽¹³⁾	1.0E+03	2.3E+04	---	1.0E+01	8.8E+00	---	---	8.8E+00
2,4-Dichlorophenol	1.8E+02	1.9E+02	1.8E+01	6.8E+03	1.7E+05	---	---	1.8E+01	---	---	1.8E+01
2,4-Dimethylphenol	1.2E+03	8.8E+02	1.6E+02	2.6E+03	7.0E+04	---	---	1.6E+02	---	---	1.6E+02
2,4-Dinitrophenol	1.2E+02	1.3E+02	4.7E+00	---	---	---	2.0E+01 +	4.7E+00	---	---	4.7E+00
2,4-Dinitrotoluene	1.2E+02	6.9E+00	2.7E-01	1.5E+01	3.1E+02	---	---	2.7E-01	---	---	2.7E-01
2,6-Dinitrotoluene	6.1E+01	6.9E+00	2.4E-01	2.2E+01	7.3E+02	---	---	2.4E-01	---	---	2.4E-01
2-Chloronaphthalene	3.9E+03	5.0E+03	3.3E+04	---	---	---	---	3.9E+03	---	---	3.9E+03
2-Chlorophenol	6.4E+01	3.6E+02	8.2E+01	3.2E+03	5.3E+04	---	---	6.4E+01	---	---	6.4E+01
2-Methylnaphthalene	---	2.5E+02	8.5E+02	---	---	---	---	2.5E+02	---	---	2.5E+02
2-Nitroaniline	1.8E+02	1.2E+01 ⁽¹³⁾	1.1E+01 ⁽¹³⁾	2.4E+01 ⁽¹³⁾	7.7E+02 ⁽¹³⁾	---	---	1.1E+01	---	---	1.1E+01
2-Nitrophenol	---	1.0E+02	6.7E+00	4.1E+02	1.2E+04	---	---	6.7E+00	---	---	6.7E+00
3,3'-Dichlorobenzidine	1.1E+00	1.0E+01	3.1E+00	---	---	---	---	1.1E+00	---	---	1.1E+00
3-Nitroaniline	---	1.9E+01	1.3E+00	4.6E+02	1.6E+04	---	---	1.3E+00	---	---	1.3E+00
4,6-Dinitro-2-methylphenol	---	5.2E+00 ⁽¹³⁾	2.3E-01 ⁽¹³⁾	2.4E+01	1.0E+03	---	---	2.3E-01	---	---	2.3E-01
4-Bromophenyl phenyl ether	---	2.7E-01	1.8E+01	5.0E+00	5.9E+02	---	---	2.7E-01	---	---	2.7E-01
4-Chloro-3-methylphenol	---	3.3E+02	2.3E+02	1.8E+04	1.0E+06	---	---	2.3E+02	---	---	2.3E+02
4-Chloroaniline	2.4E+02	2.0E+02	2.2E+01	7.4E+02	2.0E+04	---	---	2.2E+01	---	---	2.2E+01
4-Chlorophenyl phenyl ether	---	1.5E-01	1.6E+00	1.3E+00	4.2E+01	---	---	1.5E-01	---	---	1.5E-01
4-Nitroaniline	---	1.2E+02 ⁽¹³⁾	2.8E+00 ⁽¹³⁾	3.1E+02 ⁽¹³⁾	1.1E+04 ⁽¹³⁾	---	---	2.8E+00 ⁽¹³⁾	---	---	2.8E+00 ⁽¹³⁾
4-Nitrophenol	4.9E+02	5.1E+01	5.0E+00	8.3E+01	3.1E+03	---	7.0E+00	5.0E+00	---	---	5.0E+00
Acenaphthene	3.7E+03	3.0E+03	1.2E+04	---	---	---	2.0E+01 +	2.0E+01	---	---	2.0E+01
Acenaphthylene	---	3.8E+03	2.0E+04	---	---	---	---	3.8E+03	---	---	3.8E+03
Acetophenone	1.7E+03	1.8E+03	4.1E+02	2.5E+03	3.0E+04	---	---	4.1E+02	---	---	4.1E+02
Aniline	8.5E+01	5.9E+01	1.8E+01	6.7E+01	1.6E+03	---	---	1.8E+01	---	---	1.8E+01
Anthracene	2.2E+04	1.8E+04	3.4E+05	---	---	---	---	1.8E+04	---	---	1.8E+04
Atrazine (Aatrex)	2.2E+00	2.1E+01	1.2E+00	1.7E+03	9.8E+04	---	---	1.2E+00	---	---	1.2E+00

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾							PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	Tot ⁴ Soil ^{Comb} ⁽⁴⁾	GW ⁵ Soil ^{Class 3} ⁽⁵⁾	Alr ⁶ Soil ^{Inh-V} ⁽⁶⁾	Alr ⁷ GW ^{Soil} ^{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾		TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
Endrin	1.8E+01	8.7E+00	3.8E+01	2.4E+02	7.9E+04	---	---	8.7E+00	---	---	8.7E+00
Endrin aldehyde	---	1.9E+01	3.1E+04	---	---	---	---	1.9E+01	---	---	1.9E+01
Endrin ketone	---	1.9E+01	2.5E+03	9.7E+02	1.0E+06	---	---	1.9E+01	---	---	1.9E+01
gamma-BHC (Lindane)	4.4E-01	1.1E+00	4.6E-01	3.0E+02	2.5E+04	---	---	4.4E-01	---	---	4.4E-01
gamma-Chlordane	---	7.3E+00	2.1E+03	5.0E+02	1.6E+05	---	---	7.3E+00	---	---	7.3E+00
Heptachlor	1.1E-01	1.3E-01	9.4E+00	4.7E+00	1.9E+02	---	---	1.1E-01	---	---	1.1E-01
Heptachlor epoxide	5.3E-02	2.4E-01	2.9E+00	1.2E+01	2.2E+03	---	---	5.3E-02	---	---	5.3E-02
Methoxychlor	3.1E+02	2.7E+02	6.2E+03	1.6E+04	1.0E+06	---	---	2.7E+02	---	---	2.7E+02
Toxaphene	4.4E-01	1.2E+00	5.8E+02	4.9E+02	4.4E+05	---	---	4.4E-01	---	---	4.4E-01
PCBs	2.2E-01	1.1E+00	5.3E+02	2.8E+01	4.0E+03	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1016	3.9E+00	---	---	---	---	---	---	3.9E+00	---	---	3.9E+00
Aroclor-1221	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1232	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1242	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1248	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1254	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
Aroclor-1260	2.2E-01	---	---	---	---	---	---	2.2E-01	---	---	2.2E-01
VOCs											
1,1,1,2-Tetrachloroethane	3.0E+00	3.9E+01	7.1E+01	4.7E+01	2.9E+02	---	---	3.0E+00	---	---	3.0E+00
1,1,1-Trichloroethane	1.4E+03	3.2E+04 ⁽¹³⁾	8.1E+01	4.0E+04 ⁽¹³⁾	2.1E+04 ⁽¹³⁾	---	---	8.1E+01	---	---	8.1E+01
1,1,2,2-Tetrachloroethane	3.8E-01	4.0E+00	1.2E+00	4.6E+00	1.4E+01	---	---	3.8E-01	---	---	3.8E-01
1,1,2-Trichloroethane	8.4E-01	1.0E+01	1.0E+00	1.2E+01	2.1E+01	---	---	8.4E-01	---	---	8.4E-01
1,1-Dichloroethane	5.9E+02	6.5E+02	4.6E+01	3.2E+03	1.8E+03	---	---	4.6E+01	---	---	4.6E+01
1,1-Dichloroethene	2.8E+02	2.6E+03 ⁽¹³⁾	9.2E+02 ⁽¹³⁾	2.7E+03 ⁽¹³⁾	7.7E+02 ⁽¹³⁾	---	---	2.8E+02	---	---	2.8E+02
1,1-Dichloropropene	---	2.6E+01	6.7E+00	4.6E+01	1.8E+01	---	---	6.7E+00	---	---	6.7E+00
1,2,3-Trichloropropane	1.4E-03	8.7E-01	1.1E-01	1.4E+03	7.3E+03	---	---	1.4E-03	---	---	1.4E-03
1,2,4-Trichlorobenzene	6.8E+01	6.1E+02 ⁽¹³⁾	2.4E+02	7.8E+03 ⁽¹³⁾	6.9E+04 ⁽¹³⁾	---	2.0E+01	2.0E+01	---	---	2.0E+01
1,2,4-Trimethylbenzene	5.2E+01	8.0E+01 ⁽¹³⁾	2.4E+03	8.1E+01 ⁽¹³⁾	4.9E+02 ⁽¹³⁾	---	---	5.2E+01	---	---	5.2E+01
1,2-Dibromo-3-chloropropane	4.6E-01	3.18E+00 ⁽¹³⁾	8.7E-02	4.2E+00	1.8E+01	---	---	8.7E-02	---	---	8.7E-02
1,2-Dibromoethane	2.8E-02	4.3E-01 ⁽¹³⁾	1.0E-02	5.0E-01 ⁽¹³⁾	1.5E+00 ⁽¹³⁾	---	---	1.0E-02	---	---	1.0E-02
1,2-Dichlorobenzene	2.8E+02	3.9E+02	8.9E+02	4.1E+02	2.2E+03	---	---	2.8E+02	---	---	2.8E+02
1,2-Dichloroethane	3.5E-01	6.4E+00	6.9E-01	7.1E+00	5.9E+00	---	---	3.5E-01	---	---	3.5E-01
1,2-Dichloropropane	3.5E-01	3.1E+01	1.1E+00	3.2E+01	3.4E+01	---	7.0E+02	3.5E-01	---	---	3.5E-01
1,3,5-Trimethylbenzene	2.1E+01	5.9E+01	2.7E+03	6.0E+01	3.5E+02	---	---	2.1E+01	---	---	2.1E+01
1,3-Dichlorobenzene	9.3E+01	6.2E+01	3.4E+02	6.3E+01	1.1E+02	---	---	6.2E+01	---	---	6.2E+01
1,3-Dichloropropane	---	2.6E+01	3.2E+00	4.6E+01	1.2E+02	---	---	3.2E+00	---	---	3.2E+00
1,4-Dichlorobenzene	3.2E+00	2.5E+02	1.1E+02	9.1E+03	4.7E+04	---	2.0E+01	3.2E+00	---	---	3.2E+00
2,2-Dichloropropane	---	3.1E+01	6.0E+00	3.2E+01	3.3E+01	---	---	6.0E+00	---	---	6.0E+00
2-Butanone	3.2E+04	2.7E+04	1.5E+03	5.9E+04	3.5E+05	---	---	1.5E+03	---	---	1.5E+03
2-Chloroethylvinyl ether	---	2.3E+00	1.4E-01	2.4E+00	4.4E+00	---	---	1.4E-01	---	---	1.4E-01

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾							PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	Tot Soil _{Cumb} ⁽⁴⁾	GW Soil _{Class 3} ⁽⁵⁾	Air Soil _{Inh-V} ⁽⁶⁾	Air GW Soil _{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾		TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
Benzaldehyde	6.1E+03	2.4E+02	5.3E+02	2.5E+02	1.4E+03	---	---	2.4E+02	---	---	2.4E+02
Benzidine	2.1E-03	1.3E-02	5.5E-04	3.2E-02	1.2E+00	---	---	5.5E-04	---	---	5.5E-04
Benzo(a)anthracene	6.2E-01	5.6E+00	8.9E+02	1.9E+03	1.0E+06	---	---	6.2E-01	---	---	6.2E-01
Benzo(a)pyrene	6.2E-02	5.6E-01	3.8E+02	4.4E+02	9.6E+05	---	---	6.2E-02	---	---	6.2E-02
Benzo(b)fluoranthene	6.2E-01	5.7E+00	3.0E+03	3.2E+03	1.0E+06	---	---	6.2E-01	---	---	6.2E-01
Benzo(g,h,i)perylene	---	1.8E+03	1.0E+06	---	---	---	---	1.8E+03	---	---	1.8E+03
Benzo(k)fluoranthene	6.2E+00	5.7E+01	3.1E+04	7.8E+04	1.0E+06	---	---	6.2E+00	---	---	6.2E+00
Benzoic acid	1.0E+05	3.5E+02	9.5E+03	3.5E+02	1.3E+04	---	---	3.5E+02	---	---	3.5E+02
Benzyl alcohol	1.8E+04	4.0E+03 ⁽¹³⁾	1.5E+03 ⁽¹³⁾	4.6E+03	1.4E+05	---	---	1.5E+03 ⁽¹³⁾	---	---	1.5E+03 ⁽¹³⁾
Biphenyl	3.0E+03	1.3E+02	1.3E+04	1.4E+02	2.7E+03	---	6.0E+01 +	6.0E+01	---	---	6.0E+01
Bis(2-Chloroethoxy)methane	---	2.5E+00	5.9E-01	5.8E+00	7.4E+01	---	---	5.9E-01	---	---	5.9E-01
Bis(2-Chloroethyl)ether	2.1E-01	1.4E+00	1.1E-01	1.8E+00	1.5E+01	---	---	1.1E-01	---	---	1.1E-01
Bis(2-Chloroisopropyl)ether	---	4.1E+01	9.5E+00	1.1E+02	8.2E+02	---	---	9.5E+00	---	---	9.5E+00
Bis(2-Ethylhexyl)phthalate	3.5E+01	4.3E+01	8.2E+03	---	---	---	---	3.5E+01	---	---	3.5E+01
Butyl benzyl phthalate	2.4E+02	5.7E+03	1.3E+05	1.3E+04	1.0E+06	---	---	2.4E+02	---	---	2.4E+02
Caprolactam	3.1E+04	1.7E+02	2.3E+03	1.7E+02	6.1E+03	---	---	1.7E+02	---	---	1.7E+02
Carbazole	2.4E+01	2.3E+02	2.3E+02	---	---	---	---	2.4E+01	---	---	2.4E+01
Chrysene	6.2E+01	5.6E+02	7.7E+04	3.0E+05	1.0E+06	---	---	6.2E+01	---	---	6.2E+01
Dibenz(a,h)anthracene	6.2E-02	5.5E-01	7.6E+02	1.0E+03	1.0E+06	---	---	6.2E-02	---	---	6.2E-02
Dibenzofuran	1.5E+02	2.7E+02	1.7E+03	---	---	---	---	1.5E+02	---	---	1.5E+02
Diethyl phthalate	4.9E+04	1.4E+03	7.8E+03	1.5E+03	7.0E+04	---	1.0E+02 +	1.0E+02	---	---	1.0E+02
Dimethyl phthalate	1.0E+05	6.6E+02	3.1E+03	6.7E+02	2.2E+04	---	2.0E+02	2.0E+02	---	---	2.0E+02
Di-n-butyl phthalate	6.1E+03	4.4E+03	1.7E+05	1.5E+04	1.0E+06	---	2.0E+02 +	2.0E+02	---	---	2.0E+02
Di-n-octyl phthalate	2.4E+03	1.3E+03 ⁽¹³⁾	1.0E+06	2.8E+05 ⁽¹³⁾	1.0E+06 ⁽¹³⁾	---	---	1.3E+03 ⁽¹³⁾	---	---	1.3E+03 ⁽¹³⁾
Fluoranthene	2.3E+03	2.3E+03	9.6E+04	---	---	---	---	2.3E+03	---	---	2.3E+03
Fluorene	2.6E+03	2.3E+03	1.5E+04	---	---	---	3.0E+01	3.0E+01	---	---	3.0E+01
Hexachlorobenzene	3.0E-01	1.0E+00	5.6E+01	9.8E+00	4.2E+02	---	---	3.0E-01	---	---	3.0E-01
Hexachlorocyclopentadiene	3.7E+02	7.2E+00	9.6E+02	7.3E+00	1.4E+02	---	1.0E+01 +	7.2E+00	---	---	7.2E+00
Hexachloroethane	3.5E+01	6.7E+01	9.2E+01	5.0E+02	6.9E+03	---	---	3.5E+01	---	---	3.5E+01
Indeno(1,2,3-cd)pyrene	6.2E-01	5.7E+00	8.7E+03	1.3E+04	1.0E+06	---	---	6.2E-01	---	---	6.2E-01
Isophorone	5.1E+02	1.2E+03	1.5E+02	1.4E+03	2.1E+04	---	---	1.5E+02	---	---	1.5E+02
Nitrobenzene	2.0E+01	3.0E+01	4.4E+00	2.9E+02	2.9E+03	---	4.0E+01	4.4E+00	---	---	4.4E+00
n-Nitrosodimethylamine	9.5E-03	1.9E-02 ⁽¹³⁾	6.2E-04 ⁽¹³⁾	3.4E-02 ⁽¹³⁾	9.7E-01 ⁽¹³⁾	---	---	6.2E-04	---	---	6.2E-04
n-Nitrosodi-n-propylamine	7.0E-02	4.0E-01	1.8E-02	---	---	---	---	1.8E-02	---	---	1.8E-02
n-Nitrosodiphenylamine	9.9E+01	5.7E+02	1.4E+02	---	---	---	2.0E+01	2.0E+01	---	---	2.0E+01
o-Cresol	3.1E+03	1.0E+03	3.6E+02	1.5E+03	3.8E+04	---	---	3.6E+02	---	---	3.6E+02
Pentachlorophenol	3.0E+00	2.4E+00	9.2E-01	2.3E+02	1.6E+04	1.8E-03 **	5.0E+00 +	1.8E-03	---	---	1.8E-03
Phenanthrene	---	1.7E+03	2.1E+04	---	---	---	---	1.7E+03	---	---	1.7E+03
Phenol	1.8E+04	1.6E+03	9.6E+02	1.7E+03	4.7E+04	---	3.0E+01	3.0E+01	---	---	3.0E+01
Pyrene	2.3E+03	1.7E+03	5.6E+04	---	---	---	---	1.7E+03	---	---	1.7E+03
Pyridine	6.1E+01	4.8E+01	3.5E+00	1.2E+02	4.1E+01	---	---	3.5E+00	---	---	3.5E+00

TABLE 6 - EXTENT EVALUATION COMPARISON VALUES - WESTERN EXTENT OF SOUTH AREA SOILS⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 16 of RI/FS Work Plan ⁽²⁾							PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾	EPA Ecological Soil Screening Level ⁽⁸⁾	TCEQ Ecological Benchmark ⁽⁹⁾		TCEQ ⁽¹¹⁾	Site-Specific ⁽¹²⁾	
Sulfate	---	---	---	---	---	---	---	NV	---	---	NV
Chloride	---	---	---	---	---	---	---	NV	---	---	NV

Notes:

1. All values in mg/kg.
2. Values from Table 16 of RI/FS Work Plan (updated to reflect changes in toxicity data since 2005 where applicable).
3. From EPA's "Region 6 Human Health Medium-Specific Screening Levels 2004-2005". Residential Value.
4. TotSoil_{Comb} PCL = TCEQ Protective Concentration Level for 30 acre source area Residential total soil combined pathway (includes inhalation; ingestion; dermal pathways).
5. GWSoil_{Class3} PCL = TCEQ Protective Concentration Level for 30 acre source area Residential soil-to-groundwater leaching for Class 3 groundwater pathway.
6. AirSoil_{Inh-V} PCL = TCEQ Protective Concentration Level for 30 acre source area Residential soil-to-air pathway (inhalation of volatiles and particulates).
7. AirGW-Soil_{Inh-V} PCL = TCEQ Protective Concentration Level for 30 acre source area Residential soil and groundwater-to-air pathway (inhalation of volatiles and particulates).
8. From EPA's "Ecological Soil Screening Level". Values indicated with "*" are based on soil Invertebrates. Values indicated with "***" are based on avian wildlife. Values indicated with "****" are based on mammalian wildlife. All other values are based on plants.
9. From Table 3-4 of TCEQ "Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas". Values indicated with "+" are based on plant exposure. All other values are based on earthworm exposure.
10. NV = No Preliminary Screening Value.
11. From 30 TAC 350.51(m)
12. 95% UTL calculated from site-specific background samples.
13. Updated from Table 16 of RI/FS Workplan to reflect changes in toxicity data from 2005 to 2008 indicated in TCEQ PCL tables.
14. Updated from Table 16 of RI/FS Workplan to reflect revised reference dose for iron.

**TABLE 7 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES -
WESTERN EXTENT OF SOUTH AREA**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
PHASE I SAMPLES				
SA1SB15	0-0.5	Benzo(a)anthracene	2.28J	0.62
		Benzo(a)pyrene	3.6J	0.062
		Benzo(b)fluoranthene	2.27J	0.62
		Copper	105	61
		Dibenz(a,h)anthracene	0.313	0.062
		Indeno(1,2,3-cd)pyrene	1.39J	0.62
		Lead	208	17.93
		Zinc	877	280
	1-2	Benzo(a)anthracene	4.21J	0.62
		Benzo(a)pyrene	4.88J	0.062
		Benzo(b)fluoranthene	5.34J	0.62
		Copper	73.2	61
		Dibenz(a,h)anthracene	0.817	0.062
		Indeno(1,2,3-cd)pyrene	4.37J	0.62
		Lead	395	17.93
		Zinc	1090	280

**TABLE 7 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES -
WESTERN EXTENT OF SOUTH AREA**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
SA2SB16	0-0.5	Benzo(a)anthracene	1.29J	0.62
		Benzo(a)pyrene	1.95J	0.062
		Benzo(b)fluoranthene	2.05J	0.62
		Chromium	40.6	30
		Dibenz(a,h)anthracene	0.347	0.062
		Indeno(1,2,3-cd)pyrene	1.44J	0.62
		Lead	45.8	17.93
	1-2	Aroclor-1254	3.42	0.22
		Benzo(a)anthracene	1.71J	0.62
		Benzo(a)pyrene	2.13J	0.062
		Benzo(b)fluoranthene	2.76J	0.62
		Chromium	45.6	30
		Copper	128	61
		Dibenz(a,h)anthracene	0.322	0.062
		Indeno(1,2,3-cd)pyrene	1.31J	0.62
		Lead	702	17.93
		Molybdenum	10.4	2
		Zinc	525	280

**TABLE 7 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES -
WESTERN EXTENT OF SOUTH AREA**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
SA3SB17	0-0.5	Benzo(a)anthracene	2.41J	0.62
		Benzo(a)pyrene	3.41J	0.062
		Benzo(b)fluoranthene	4.66J	0.62
		Copper	207	61
		Dibenz(a,h)anthracene	0.465	0.062
		Indeno(1,2,3-cd)pyrene	1.47J	0.62
		Molybdenum	2.24	2
		Zinc	412	280
	1-2	Aroclor-1254	11.5	0.22
		Benzo(a)pyrene	0.608J	0.062
		Benzo(b)fluoranthene	0.835J	0.62
		Copper	487	61
		Dibenz(a,h)anthracene	0.177	0.062
		Lead	252	17.93
		Mercury	0.85	0.1
		Zinc	865	280
SA4SB18	0-0.5	Aroclor-1254	0.734J+	0.22
		Barium	540J	10
		Benzo(a)pyrene	0.329J	0.062
		Lead	146J	17.93
		Zinc	414	280
SA5SB19	0-0.5	Aroclor-1254	0.457	0.22
		Arsenic	11.5	8.66
		Benzo(a)pyrene	0.371J	0.062
		Lead	152J	17.93
		Molybdenum	2.69J-	2
		Zinc	412	280
SA6SB20	0-0.5	Dibenz(a,h)anthracene	0.132	0.062

**TABLE 7 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES -
WESTERN EXTENT OF SOUTH AREA**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
PHASE 2 SAMPLES				
L20SB01	0-0.5	Benzo(a)pyrene	0.283	0.062
	1-2	Lead	19J	17.93
L20SB02	0-0.5	Lead	19.7J	17.93
L20SB04	0-0.5	Copper	73J	61
		Lead	116J	17.93
		Mercury	0.72	0.1
		Zinc	453J	280
L20SB05	0-0.5	Benzo(a)pyrene	0.759	0.062
		Lead	108J	17.93
		Zinc	781J	280
L20SB06	0-0.5	Aroclor-1254	0.836	0.22
		Benzo(a)pyrene	0.394	0.062
		Lead	290J	17.93
		Zinc	942J	280
L20SB07	0-0.5	Aroclor-1254	1.02	0.22
		Benzo(a)pyrene	0.776	0.062
		Dibenz(a,h)anthracene	0.235	0.062
		Lead	985J	17.93
		Zinc	6,510J	280

Notes:

(1) Extent Evaluation Comparison Values from Table 6.

(2) Data qualifiers: J = estimated value; J+ = estimated value, biased high; J- = estimated value, biased low.

TABLE 8 - EXTENT EVALUATION COMPARISON VALUES - EASTERN AND VERTICAL EXTENT IN SOIL⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
METALS									
Aluminum	1.0E+05	5.7E+05 ⁽¹¹⁾	1.0E+06	---	---	6.7E+04	3.0E+04	---	6.7E+04
Antimony	4.5E+02	3.1E+02	2.7E+02	---	---	2.7E+02	1.0E+00	---	2.7E+02
Arsenic	1.8E+00	2.0E+02	2.5E+02	---	---	1.8E+00	5.9E+00	8.7E+00	8.7E+00
Barium	7.9E+04	8.9E+04 ⁽¹¹⁾	2.2E+04	---	---	2.2E+04	3.0E+02	4.6E+02	2.2E+04
Beryllium	2.2E+03	2.5E+02	9.2E+01	---	---	9.2E+01	1.5E+00	---	9.2E+01
Boron	1.0E+05	1.9E+05	---	---	---	1.0E+05	3.0E+01	---	1.0E+05
Cadmium	5.6E+02	8.5E+02	7.5E+01	---	---	7.5E+01	---	---	7.5E+01
Chromium	5.0E+02	5.7E+04	1.2E+05	---	---	5.0E+02	3.0E+01	2.4E+01	5.0E+02
Chromium (VI)	7.1E+01	1.0E+03	1.4E+03	---	---	7.1E+01	---	---	7.1E+01
Cobalt	2.1E+03	7.3E+03 ⁽¹¹⁾	6.6E+04 ⁽¹¹⁾	---	---	2.1E+03	7.0E+00	---	2.1E+03
Copper	4.2E+04	3.7E+04	5.2E+04	---	---	3.7E+04	1.5E+01	2.4E+01	3.7E+04
Iron	1.0E+05	---	---	---	---	1.0E+05	1.5E+04	---	1.0E+05
Lead	8.0E+02	1.6E+03	1.5E+02	---	---	1.5E+02	1.5E+01	1.8E+01	1.5E+02
Lithium	2.3E+04	1.9E+04	---	---	---	1.9E+04	---	3.6E+01	1.9E+04
Manganese	3.5E+04	2.4E+04	5.1E+05	---	---	2.4E+04	3.0E+02	6.5E+02	2.4E+04
Mercury	3.4E+02	3.3E+00	3.9E-01	3.3E+00	2.6E+00	3.9E-01	4.0E-02	3.5E-02	3.9E-01
Molybdenum	5.7E+03	4.5E+03	7.3E+03	---	---	4.5E+03	---	7.4E-01	4.5E+03
Nickel	2.3E+04	7.9E+03	2.3E+04	---	---	7.9E+03	1.0E+01	---	7.9E+03
Selenium	5.7E+03	4.7E+03	1.1E+02	---	---	1.1E+02	3.0E-01	---	1.1E+02
Silver	5.7E+03	1.7E+03	7.1E+01	---	---	7.1E+01	---	---	7.1E+01
Strontium	1.0E+05	4.9E+05	9.2E+04	---	---	9.2E+04	1.0E+02	---	9.2E+04
Thallium	---	7.8E+01	8.7E+01	---	---	7.8E+01	9.3E+00	---	7.8E+01
Tin	---	4.0E+05	1.0E+06	---	---	4.0E+05	9.0E-01	---	4.0E+05
Titanium	---	1.0E+06	---	---	---	1.0E+06	2.0E+03	---	1.0E+06
Vanadium	1.1E+03	2.3E+03	5.1E+05	---	---	1.1E+03	5.0E+01	---	1.1E+03
Zinc	1.0E+05	2.5E+05	3.5E+05	---	---	1.0E+05	3.0E+01	2.8E+02	1.0E+05
PESTICIDES									
4,4'-DDD	1.1E+01	1.0E+02	1.5E+03	---	---	1.1E+01	---	---	1.1E+01
4,4'-DDE	7.8E+00	7.3E+01	1.3E+03	---	---	7.8E+00	---	---	7.8E+00
4,4'-DDT	7.8E+00	6.8E+01	1.7E+03	1.0E+03	3.7E+05	7.8E+00	---	---	7.8E+00
Aldrin	1.1E-01	9.7E-01	1.2E+01	7.2E+00	9.2E+02	1.1E-01	---	---	1.1E-01
alpha-BHC	4.0E-01	2.9E+00	8.9E-01	1.2E+01	9.1E+02	4.0E-01	---	---	4.0E-01
alpha-Chlordane	---	5.4E+01	8.3E+04	3.5E+03	1.0E+06	5.4E+01	---	---	5.4E+01
beta-BHC	1.4E+00	1.1E+01	3.2E+00	6.2E+01	7.1E+03	1.4E+00	---	---	1.4E+00
delta-BHC	---	1.2E+01	1.9E+01	8.8E+01	1.3E+04	1.2E+01	---	---	1.2E+01
Dieldrin	1.2E-01	1.1E+00	5.5E+00	2.7E+01	1.2E+04	1.2E-01	---	---	1.2E-01
Endosulfan I	---	1.2E+02	4.6E+03	1.3E+02	5.2E+04	1.2E+02	---	---	1.2E+02
Endosulfan II	---	4.1E+03	1.4E+04	---	---	4.1E+03	---	---	4.1E+03

TABLE 8 - EXTENT EVALUATION COMPARISON VALUES - EASTERN AND VERTICAL EXTENT IN SOIL ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
Endosulfan sulfate	---	4.1E+03	7.0E+05	---	---	4.1E+03	---	---	4.1E+03
Endrin	2.1E+02	1.3E+02	3.8E+01	3.4E+02	1.1E+05	3.8E+01	---	---	3.8E+01
Endrin aldehyde	---	2.0E+02	9.4E+04	---	---	2.0E+02	---	---	2.0E+02
Endrin ketone	---	1.8E+02	7.6E+03	1.4E+03	1.0E+06	1.8E+02	---	---	1.8E+02
gamma-BHC (Lindane)	1.9E+00	1.8E+01	4.6E-01	4.2E+02	3.5E+04	4.6E-01	---	---	4.6E-01
gamma-Chlordane	---	5.1E+01	4.6E+03	8.4E+02	2.6E+05	5.1E+01	---	---	5.1E+01
Heptachlor	4.3E-01	2.8E+00	9.4E+00	7.9E+00	3.2E+02	4.3E-01	---	---	4.3E-01
Heptachlor epoxide	2.1E-01	1.9E+00	2.9E+00	2.1E+01	3.8E+03	2.1E-01	---	---	2.1E-01
Methoxychlor	3.4E+03	3.0E+03	6.2E+03	2.2E+04	1.0E+06	3.0E+03	---	---	3.0E+03
Toxaphene	1.7E+00	1.7E+01	5.8E+02	8.3E+02	7.5E+05	1.7E+00	---	---	1.7E+00
PCBs	---	7.1E+00	5.3E+02	4.7E+01	6.8E+03	7.1E+00	---	---	7.1E+00
Aroclor-1016	2.4E+01	---	---	---	---	2.4E+01	---	---	2.4E+01
Aroclor-1221	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
Aroclor-1232	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
Aroclor-1242	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
Aroclor-1248	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
Aroclor-1254	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
Aroclor-1260	8.3E-01	---	---	---	---	8.3E-01	---	---	8.3E-01
VOCs									
1,1,1,2-Tetrachloroethane	7.6E+00	7.3E+01 ⁽¹¹⁾	1.6E+02 ⁽¹¹⁾	7.8E+01 ⁽¹¹⁾	4.9E+02 ⁽¹¹⁾	7.6E+00	---	---	7.6E+00
1,1,1-Trichloroethane	1.4E+03	5.4E+04 ⁽¹¹⁾	8.1E+01	5.5E+04 ⁽¹¹⁾	2.9E+04 ⁽¹¹⁾	8.1E+01	---	---	8.1E+01
1,1,2,2-Tetrachloroethane	9.7E-01	7.3E+00	2.6E+00	7.7E+00	2.4E+01	9.7E-01	---	---	9.7E-01
1,1,2-Trichloroethane	2.1E+00	1.9E+01	1.0E+00	1.9E+01	3.5E+01	1.0E+00	---	---	1.0E+00
1,1-Dichloroethane	2.3E+03	4.3E+03 ⁽¹¹⁾	2.8E+03 ⁽¹¹⁾	4.4E+03	2.5E+03	2.3E+03	---	---	2.3E+03
1,1-Dichloroethene	4.7E+02	3.5E+03 ⁽¹¹⁾	2.5E+00	3.8E+03 ⁽¹¹⁾	1.1E+03 ⁽¹¹⁾	2.5E+00	---	---	2.5E+00
1,1-Dichloropropene	---	6.1E+01	1.5E+01	7.7E+01	3.1E+01	1.5E+01	---	---	1.5E+01
1,2,3-Trichloropropane	3.4E-03	4.1E+00	2.6E-01	2.0E+03	1.0E+04	3.4E-03	---	---	3.4E-03
1,2,4-Trichlorobenzene	2.6E+02	4.2E+03 ⁽¹¹⁾	2.4E+02	1.1E+04 ⁽¹¹⁾	9.7E+04 ⁽¹¹⁾	2.4E+02	---	---	2.4E+02
1,2,4-Trimethylbenzene	1.9E+02	1.1E+02 ⁽¹¹⁾	7.2E+03	1.1E+02 ⁽¹¹⁾	6.8E+02 ⁽¹¹⁾	1.1E+02	---	---	1.1E+02
1,2-Dibromo-3-chloropropane	2.2E+00	5.6E+00 ⁽¹¹⁾	8.7E-02	5.8E+00	2.5E+01	8.7E-02	---	---	8.7E-02
1,2-Dibromoethane	7.0E-02	7.9E-01 ⁽¹¹⁾	1.0E-02	8.4E-01 ⁽¹¹⁾	2.5E+00 ⁽¹¹⁾	1.0E-02	---	---	1.0E-02
1,2-Dichlorobenzene	3.7E+02	5.7E+02	8.9E+02	5.7E+02	3.1E+03	3.7E+02	---	---	3.7E+02
1,2-Dichloroethane	8.4E-01	1.1E+01	6.9E-01	1.2E+01	9.8E+00	6.9E-01	---	---	6.9E-01
1,2-Dichloropropane	8.5E-01	4.4E+01	1.1E+00	4.4E+01	4.8E+01	8.5E-01	---	---	8.5E-01
1,3,5-Trimethylbenzene	7.8E+01	8.3E+01	7.9E+03	8.3E+01	5.0E+02	7.8E+01	---	---	7.8E+01
1,3-Dichlorobenzene	1.5E+02	8.8E+01	1.0E+03	8.8E+01	1.6E+02	8.8E+01	---	---	8.8E+01
1,3-Dichloropropane	---	6.1E+01	7.2E+00	7.7E+01	2.0E+02	7.2E+00	---	---	7.2E+00
1,4-Dichlorobenzene	8.1E+00	1.2E+03	1.1E+02	1.3E+04	6.6E+04	8.1E+00	---	---	8.1E+00

TABLE 8 - EXTENT EVALUATION COMPARISON VALUES - EASTERN AND VERTICAL EXTENT IN SOIL ⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
2,2-Dichloropropane	---	4.4E+01	1.4E+01	4.4E+01	4.6E+01	1.4E+01	---	---	1.4E+01
2-Butanone	3.4E+04	7.3E+04	4.4E+03	8.2E+04	4.9E+05	4.4E+03	---	---	4.4E+03
2-Chloroethylvinyl ether	---	3.3E+00	3.2E-01	3.3E+00	6.2E+00	3.2E-01	---	---	3.2E-01
2-Chlorotoluene	5.1E+02	2.5E+03	1.4E+03	3.1E+03	1.3E+04	5.1E+02	---	---	5.1E+02
2-Hexanone	---	7.9E+01	5.8E+02	7.9E+01	3.7E+02	7.9E+01	---	---	7.9E+01
4-Chlorotoluene	---	3.5E+00	5.7E+03 ⁽¹¹⁾	3.5E+00	1.6E+01	3.5E+00	---	---	3.5E+00
4-Isopropyltoluene	---	4.7E+03	3.5E+04	4.9E+03	3.9E+04	4.7E+03	---	---	4.7E+03
4-Methyl-2-pentanone	1.7E+04	2.8E+04	7.4E+02	4.2E+04	1.5E+05	7.4E+02	---	---	7.4E+02
Acetone	1.0E+05	8.1E+03	6.4E+03	8.2E+03	4.5E+04	6.4E+03	---	---	6.4E+03
Acrolein	3.8E-01	8.1E-01	3.5E+00	8.1E-01	1.2E+01	3.8E-01	---	---	3.8E-01
Acrylonitrile	5.5E-01	4.2E+00	3.7E-01	4.6E+00	1.2E+01	3.7E-01	---	---	3.7E-01
Benzene	1.6E+00	1.11E+02 ⁽¹¹⁾	1.3E+00	1.41E+02 ⁽¹¹⁾	1.00E+02 ⁽¹¹⁾	1.3E+00	---	---	1.3E+00
Bromobenzene	1.2E+02	1.2E+02 ⁽¹¹⁾	8.6E+02	1.2E+02 ⁽¹¹⁾	4.0E+02 ⁽¹¹⁾	1.2E+02	---	---	1.2E+02
Bromodichloromethane	2.6E+00	4.6E+02	7.3E+00	---	---	2.6E+00	---	---	2.6E+00
Bromoform	2.4E+02	6.0E+02	7.1E+01	7.2E+02	3.1E+03	7.1E+01	---	---	7.1E+01
Bromomethane	1.5E+01	5.3E+01	2.0E+01	5.5E+01	1.6E+01	1.5E+01	---	---	1.5E+01
Butanol	6.8E+04	3.1E+03	7.9E+02	3.2E+03	3.8E+04	7.9E+02	---	---	7.9E+02
Carbon disulfide	7.2E+02	7.2E+03	2.0E+03	7.7E+03	2.4E+03	7.2E+02	---	---	7.2E+02
Carbon tetrachloride	5.8E-01	1.9E+01	3.1E+00	2.1E+01	1.1E+01	5.8E-01	---	---	5.8E-01
Chlorobenzene	6.0E+02	5.4E+02 ⁽¹¹⁾	5.5E+01	5.5E+02 ⁽¹¹⁾	1.1E+03 ⁽¹¹⁾	5.5E+01	---	---	5.5E+01
Chloroethane	7.2E+00	8.7E+04	4.6E+03	1.1E+05	3.3E+04	7.2E+00	---	---	7.2E+00
Chloroform	5.8E-01	1.3E+01	1.5E+02	1.3E+01	9.0E+00	5.8E-01	---	---	5.8E-01
Chloromethane	3.0E+00	1.6E+02	4.5E+01	1.7E+02	2.3E+01	3.0E+00	---	---	3.0E+00
cis-1,2-Dichloroethene	1.6E+02	4.7E+03	1.2E+01	8.8E+03	5.2E+03	1.2E+01	---	---	1.2E+01
cis-1,3-Dichloropropene	---	4.3E+01	7.4E-01	7.4E+01	8.2E+01	7.4E-01	---	---	7.4E-01
Dibromochloromethane	2.6E+00	3.4E+02	5.5E+00	---	---	2.6E+00	---	---	2.6E+00
Dibromomethane	5.9E+02	1.9E+02	1.3E+02	1.9E+02	6.6E+02	1.3E+02	---	---	1.3E+02
Dichlorodifluoromethane	3.4E+02	4.3E+04	3.6E+04	5.5E+04	1.3E+04	3.4E+02	---	---	3.4E+02
Ethylbenzene	2.3E+02	1.0E+04	3.8E+02	1.1E+04	1.5E+04	2.3E+02	---	---	2.3E+02
Hexachlorobutadiene	2.5E+01	2.3E+01	3.7E+02 ⁽¹¹⁾	2.5E+01	2.7E+02	2.3E+01	---	---	2.3E+01
Isopropylbenzene (Cumene)	5.8E+02	6.3E+03	5.2E+04	6.7E+03	5.7E+04	5.8E+02	---	---	5.8E+02
Methyl acetate	1.0E+05	6.6E+03	7.3E+03	6.6E+03	2.4E+04	6.6E+03	---	---	6.6E+03
Methyl iodide	---	1.2E+02	1.7E+01	1.3E+02	5.1E+01	1.7E+01	---	---	1.7E+01
Methylcyclohexane	1.4E+02	3.3E+04	1.0E+06	3.3E+04	1.6E+04	1.4E+02	---	---	1.4E+02
Methylene chloride	2.2E+01	5.6E+02	6.5E-01	6.6E+02	3.6E+02	6.5E-01	---	---	6.5E-01
Naphthalene	2.1E+02	1.9E+02	4.7E+03	1.9E+02	1.8E+03	1.9E+02	---	---	1.9E+02
n-Butylbenzene	2.4E+02	4.0E+03	1.8E+04	4.7E+03	4.1E+04	2.4E+02	---	---	2.4E+02
n-Propylbenzene	2.4E+02	4.1E+03	6.7E+03	4.6E+03	2.5E+04	2.4E+02	---	---	2.4E+02
o-Xylene	2.8E+02	8.0E+03 ⁽¹¹⁾	3.5E+03	8.1E+03 ⁽¹¹⁾	8.0E+04 ⁽¹¹⁾	2.8E+02	---	---	2.8E+02

TABLE 8 - EXTENT EVALUATION COMPARISON VALUES - EASTERN AND VERTICAL EXTENT IN SOIL⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
sec-Butylbenzene	2.2E+02	3.7E+03	1.3E+04	4.1E+03	3.0E+04	2.2E+02	---	---	2.2E+02
Styrene	1.7E+03	1.6E+04	1.6E+02	1.7E+04	9.5E+04	1.6E+02	---	---	1.6E+02
tert-Butyl methyl ether (MTBE)	4.1E+01	1.1E+03	9.3E+01	1.2E+03	1.1E+03	4.1E+01	---	---	4.1E+01
tert-Butylbenzene	3.9E+02	3.2E+03	1.5E+04	3.4E+03	2.3E+04	3.9E+02	---	---	3.9E+02
Tetrachloroethene	1.7E+00	2.7E+02	2.5E+00	5.3E+02	3.6E+02	1.7E+00	---	---	1.7E+00
Toluene	5.2E+02	3.3E+04 ⁽¹¹⁾	4.1E+02	5.5E+04 ⁽¹¹⁾	5.8E+04 ⁽¹¹⁾	4.1E+02	---	---	4.1E+02
trans-1,2-Dichloroethene	2.4E+02	6.42E+02 ⁽¹¹⁾	2.5E+01	6.63E+02 ⁽¹¹⁾	3.41E+02 ⁽¹¹⁾	2.5E+01	---	---	2.5E+01
trans-1,3-Dichloropropene	---	6.1E+01	4.0E+00	7.7E+01	8.1E+01	4.0E+00	---	---	4.0E+00
trans-1,4-Dichloro-2-butene	---	2.9E-01	---	2.9E-01	1.2E+00	2.9E-01	---	---	2.9E-01
Trichloroethene	1.0E-01	1.7E+02	1.7E+00	1.8E+02	1.2E+02	1.0E-01	---	---	1.0E-01
Trichlorofluoromethane	1.4E+03	2.8E+04	1.9E+04	3.1E+04	6.4E+03	1.4E+03	---	---	1.4E+03
Trichlorotrifluoroethane	5.6E+03	3.3E+05	1.0E+06	3.3E+05	9.0E+04	5.6E+03	---	---	5.6E+03
Vinyl acetate	1.6E+03	2.2E+03	8.0E+03	2.2E+03	2.8E+03	1.6E+03	---	---	1.6E+03
Vinyl chloride	4.3E-01	1.2E+01	1.1E+00	3.5E+01	4.4E+00	4.3E-01	---	---	4.3E-01
Xylene (total)	2.1E+02	1.1E+03	6.1E+03	1.1E+03	1.9E+03	2.1E+02	---	---	2.1E+02
SVOCs									
1,2-Diphenylhydrazine/Azobenzen	2.4E+00	1.5E+02 ⁽¹¹⁾	2.0E+03 ⁽¹¹⁾	1.2E+03 ⁽¹¹⁾	1.6E+05 ⁽¹¹⁾	2.4E+00	---	---	2.4E+00
2,4,5-Trichlorophenol	6.8E+04	1.2E+04	5.1E+03	1.5E+04	5.7E+05	5.1E+03	---	---	5.1E+03
2,4,6-Trichlorophenol	1.7E+02	6.81E+02 ⁽¹¹⁾	2.61E+01 ⁽¹¹⁾	1.7E+03	3.8E+04	2.6E+01	---	---	2.6E+01
2,4-Dichlorophenol	2.1E+03	1.7E+03	5.3E+01	9.6E+03	2.4E+05	5.3E+01	---	---	5.3E+01
2,4-Dimethylphenol	1.4E+04	2.9E+03	4.8E+02	3.6E+03	9.8E+04	4.8E+02	---	---	4.8E+02
2,4-Dinitrophenol	1.4E+03	1.4E+03	1.4E+01	---	---	1.4E+01	---	---	1.4E+01
2,4-Dinitrotoluene	1.4E+03	2.1E+01	6.0E-01	2.1E+01	4.4E+02	6.0E-01	---	---	6.0E-01
2,6-Dinitrotoluene	6.8E+02	2.8E+01	5.4E-01	3.1E+01	1.0E+03	5.4E-01	---	---	5.4E-01
2-Chloronaphthalene	2.6E+04	5.0E+04	1.0E+05	---	---	2.6E+04	---	---	2.6E+04
2-Chlorophenol	2.6E+02	2.4E+03	2.4E+02	4.5E+03	7.4E+04	2.4E+02	---	---	2.4E+02
2-Methylnaphthalene	---	2.5E+03	2.5E+03	---	---	2.5E+03	---	---	2.5E+03
2-Nitroaniline	2.0E+03	2.9E+01 ⁽¹¹⁾	3.3E+00 ⁽¹¹⁾	3.4E+01 ⁽¹¹⁾	1.1E+03 ⁽¹¹⁾	3.3E+00	---	---	3.3E+00
2-Nitrophenol	---	4.1E+02	2.0E+01	5.8E+02	1.7E+04	2.0E+01	---	---	2.0E+01
3,3'-Dichlorobenzidine	4.3E+00	4.2E+01	7.0E+00	---	---	4.3E+00	---	---	4.3E+00
3-Nitroaniline	---	1.6E+02	3.8E+00	6.4E+02	2.3E+04	3.8E+00	---	---	3.8E+00
4,6-Dinitro-2-methylphenol	---	2.26E+01 ⁽¹¹⁾	7.0E-01 ⁽¹¹⁾	3.4E+01	1.5E+03	7.0E-01	---	---	7.0E-01
4-Bromophenyl phenyl ether	---	1.1E+00	4.0E+01	8.4E+00	1.0E+03	1.1E+00	---	---	1.1E+00
4-Chloro-3-methylphenol	---	3.0E+03	6.8E+02	2.5E+04	1.0E+06	6.8E+02	---	---	6.8E+02
4-Chloroaniline	2.7E+03	7.5E+02	6.7E+01	1.0E+03	2.8E+04	6.7E+01	---	---	6.7E+01
4-Chlorophenyl phenyl ether	---	8.0E-01	3.6E+00	2.2E+00	7.0E+01	8.0E-01	---	---	8.0E-01
4-Nitroaniline	---	3.6E+02 ⁽¹¹⁾	6.4E+00 ⁽¹¹⁾	4.3E+02 ⁽¹¹⁾	1.5E+04 ⁽¹¹⁾	6.4E+00	---	---	6.4E+00

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Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
4-Nitrophenol	5.5E+03	1.1E+02	1.5E+01	1.2E+02	4.4E+03	1.5E+01	---	---	1.5E+01
Acenaphthene	3.3E+04	3.7E+04	3.5E+04	---	---	3.3E+04	---	---	3.3E+04
Acenaphthylene	---	3.7E+04	6.1E+04	---	---	3.7E+04	---	---	3.7E+04
Acetophenone	1.7E+03	3.3E+03	1.2E+03	3.5E+03	4.1E+04	1.2E+03	---	---	1.2E+03
Aniline	3.4E+02	9.3E+01	4.1E+01	9.4E+01	2.3E+03	4.1E+01	---	---	4.1E+01
Anthracene	1.0E+05	1.9E+05	1.0E+06	---	---	1.0E+05	---	---	1.0E+05
Atrazine (Aatrex)	8.6E+00	8.6E+01	1.2E+00	2.4E+03	1.4E+05	1.2E+00	---	---	1.2E+00
Benzaldehyde	6.8E+04	3.4E+02	1.6E+03	3.5E+02	2.0E+03	3.4E+02	---	---	3.4E+02
Benzidine	8.3E-03	3.3E-02	1.2E-03	5.4E-02	1.9E+00	1.2E-03	---	---	1.2E-03
Benzo(a)anthracene	2.3E+00	2.4E+01	2.0E+03	3.2E+03	1.0E+06	2.3E+00	---	---	2.3E+00
Benzo(a)pyrene	2.3E-01	2.4E+00	3.8E+02	7.3E+02	1.0E+06	2.3E-01	---	---	2.3E-01
Benzo(b)fluoranthene	2.3E+00	2.4E+01	6.7E+03	5.3E+03	1.0E+06	2.3E+00	---	---	2.3E+00
Benzo(g,h,i)perylene	---	1.9E+04	1.0E+06	---	---	1.9E+04	---	---	1.9E+04
Benzo(k)fluoranthene	2.3E+01	2.4E+02	6.9E+04	1.3E+05	1.0E+06	2.3E+01	---	---	2.3E+01
Benzoic acid	1.0E+05	5.0E+02	2.8E+04	5.0E+02	1.8E+04	5.0E+02	---	---	5.0E+02
Benzyl alcohol	1.0E+05	6.2E+03	4.4E+03 ⁽¹¹⁾	6.4E+03	2.0E+05	4.4E+03	---	---	4.4E+03
Biphenyl	2.6E+04	1.9E+02	3.8E+04	1.9E+02	3.8E+03	1.9E+02	---	---	1.9E+02
Bis(2-Chloroethoxy)methane	---	6.2E+00	1.3E+00	9.8E+00	1.2E+02	1.3E+00	---	---	1.3E+00
Bis(2-Chloroethyl)ether	6.2E-01	2.8E+00	2.4E-01	3.1E+00	2.6E+01	2.4E-01	---	---	2.4E-01
Bis(2-Chloroisopropyl)ether	---	1.1E+02	2.1E+01	1.8E+02	1.4E+03	2.1E+01	---	---	2.1E+01
Bis(2-Ethylhexyl)phthalate	1.4E+02	5.6E+02	8.2E+03	---	---	1.4E+02	---	---	1.4E+02
Butyl benzyl phthalate	2.4E+02	1.6E+04	4.0E+05	1.8E+04	1.0E+06	2.4E+02	---	---	2.4E+02
Caprolactam	1.0E+05	2.3E+02	7.0E+03	2.3E+02	8.5E+03	2.3E+02	---	---	2.3E+02
Carbazole	9.6E+01	9.5E+02	5.1E+02	---	---	9.6E+01	---	---	9.6E+01
Chrysene	2.3E+02	2.4E+03	1.7E+05	5.1E+05	1.0E+06	2.3E+02	---	---	2.3E+02
Dibenz(a,h)anthracene	2.3E-01	2.4E+00	1.1E+03	1.7E+03	1.0E+06	2.3E-01	---	---	2.3E-01
Dibenzofuran	1.7E+03	2.7E+03	5.0E+03	---	---	1.7E+03	---	---	1.7E+03
Diethyl phthalate	1.0E+05	2.0E+03	2.3E+04	2.1E+03	9.8E+04	2.0E+03	---	---	2.0E+03
Dimethyl phthalate	1.0E+05	9.3E+02	9.3E+03	9.3E+02	3.0E+04	9.3E+02	---	---	9.3E+02
Di-n-butyl phthalate	6.8E+04	1.6E+04	5.0E+05	2.1E+04	1.0E+06	1.6E+04	---	---	1.6E+04
Di-n-octyl phthalate	2.7E+04	1.3E+04 ⁽¹¹⁾	1.0E+06	3.9E+05 ⁽¹¹⁾	1.0E+06 ⁽¹¹⁾	1.3E+04	---	---	1.3E+04
Fluoranthene	2.4E+04	2.5E+04	2.9E+05	---	---	2.4E+04	---	---	2.4E+04
Fluorene	2.6E+04	2.5E+04	4.5E+04	---	---	2.5E+04	---	---	2.5E+04
Hexachlorobenzene	1.2E+00	6.9E+00	5.6E+01	1.6E+01	7.0E+02	1.2E+00	---	---	1.2E+00
Hexachlorocyclopentadiene	4.1E+03	1.0E+01	9.6E+02	1.0E+01	1.9E+02	1.0E+01	---	---	1.0E+01
Hexachloroethane	1.4E+02	5.2E+02	2.7E+02	8.3E+02	1.2E+04	1.4E+02	---	---	1.4E+02
Indeno(1,2,3-cd)pyrene	2.3E+00	2.4E+01	1.9E+04	2.2E+04	1.0E+06	2.3E+00	---	---	2.3E+00
Isophorone	2.0E+03	1.9E+03	3.4E+02	1.9E+03	2.9E+04	3.4E+02	---	---	3.4E+02
Nitrobenzene	1.1E+02	1.9E+02	1.3E+01	4.1E+02	4.0E+03	1.3E+01	---	---	1.3E+01

TABLE 8 - EXTENT EVALUATION COMPARISON VALUES - EASTERN AND VERTICAL EXTENT IN SOIL⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 15 of RI/FS Work Plan ⁽²⁾					PSV	Potential Background Values		Extent Evaluation Comparison Value
	EPA Region 6 Soil Screening Criteria ⁽³⁾	TotSoil _{Comb} ⁽⁴⁾	GWSoil _{Class 3} ⁽⁵⁾	AirSoil _{Inh-V} ⁽⁶⁾	AirGWSoil _{Inh-V} ⁽⁷⁾		TCEQ ⁽⁹⁾	Site-Specific ⁽¹⁰⁾	
n-Nitrosodimethylamine	3.8E-02	1.3E-01	4.1E-03	1.7E-01	4.5E+00	4.1E-03	---	---	4.1E-03
n-Nitrosodi-n-propylamine	2.7E-01	1.4E+00	3.9E-02	---	---	3.9E-02	---	---	3.9E-02
n-Nitrosodiphenylamine	3.9E+02	1.9E+03	3.2E+02	---	---	3.2E+02	---	---	3.2E+02
o-Cresol	3.4E+04	1.9E+03	1.1E+03	2.0E+03	5.3E+04	1.1E+03	---	---	1.1E+03
Pentachlorophenol	1.0E+01	1.1E+02	9.2E-01	3.3E+02	2.2E+04	9.2E-01	---	---	9.2E-01
Phenanthrene	---	1.9E+04	6.2E+04	---	---	1.9E+04	---	---	1.9E+04
Phenol	1.0E+05	2.4E+03	2.9E+03	2.4E+03	6.5E+04	2.4E+03	---	---	2.4E+03
Pyrene	3.2E+04	1.9E+04	1.7E+05	---	---	1.9E+04	---	---	1.9E+04
Pyridine	6.8E+02	1.4E+02	1.0E+01	1.7E+02	5.7E+01	1.0E+01	---	---	1.0E+01
Sulfate	---	---	---	---	---	NV	---	---	NV
Chloride	---	---	---	---	---	NV	---	---	NV

Notes:

1. All values in mg/kg.
2. Values from Table 15 of RI/FS Work Plan (updated to reflect changes in toxicity data since 2005 where applicable).
3. From EPA's "Region 6 Human Health Medium-Specific Screening Levels 2004-2005". Industrial Outdoor Worker.
4. ^{Tot}Soil_{Comb} PCL = TCEQ Protective Concentration Level for 30 acre source area Commercial/Industrial total soil combined pathway (includes inhalation; ingestion; dermal pathways).
5. ^{GW}Soil_{Class 3} PCL = TCEQ Protective Concentration Level for 30 acre source area Commercial/Industrial soil-to-groundwater leaching for Class 3 groundwater pathway.
6. ^{Air}Soil_{Inh-V} PCL = TCEQ Protective Concentration Level for 30 acre source area Commercial/Industrial soil-to-air pathway (inhalation of volatiles and particulates).
7. ^{Air}GW-Soil_{Inh-V} PCL = TCEQ Protective Concentration Level for 30 acre source area Commercial/Industrial soil and groundwater-to-air pathway (inhalation of volatiles and particulates).
8. NV = No Preliminary Screening Value.
9. From 30 TAC 350.51(m)
10. 95% UTL calculated from site-specific background samples.
11. Updated from Table 15 of RI/FS Workplan to reflect changes in toxicity data from 2005 to 2008 indicated in TCEQ PCL tables.

**TABLE 9 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON
VALUES - VERTICAL EXTENT OF SOUTH AREA**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
SA1SB15	1-2	Benzo(a)anthracene	4.21J	2.3
		Benzo(a)pyrene	4.88J	0.23
		Benzo(b)fluoranthene	5.34J	2.3
		Dibenz(a,h)anthracene	0.817	0.23
		Indeno(1,2,3-cd)pyrene	4.37J	2.3
		Lead	395	151
SA2SB16	1-2	Aroclor-1254	3.42	0.83
		Benzo(a)pyrene	2.13J	0.23
		Benzo(b)fluoranthene	2.76J	2.3
		Dibenz(a,h)anthracene	0.322	0.23
		Lead	702	151
SA3SB17	1-2	Aroclor-1254	11.5	0.83
		Benzo(a)pyrene	0.608J	0.23
		Lead	252	151
		Mercury	0.85	0.391
SB2SB22	1-2	Aroclor-1254	2.84	0.83
		Benzo(a)pyrene	0.38J	0.23
SB4SB24	1-2	Aroclor-1254	2.73	0.83
		Benzo(a)pyrene	1.37J	0.23
		Dibenz(a,h)anthracene	0.324	0.23
SC3SB27	1-2	Dibenz(a,h)anthracene	0.606	0.23
SC4SB28	1-2	Benzo(a)pyrene	1.2J	0.23
		Lead	192J	151
SD3SB33	1-2	Benzo(a)pyrene	0.509J	0.23
SD5SB35	1-2	Aroclor-1254	1.41	0.83
		Benzo(a)anthracene	4.79	2.3
		Benzo(a)pyrene	4.45J	0.23
		Benzo(b)fluoranthene	5.97	2.3
		Dibenz(a,h)anthracene	1.23	0.23
		Indeno(1,2,3-cd)pyrene	2.79J	2.3
		Mercury	0.5	0.391
SF2SB44	1-2	Dibenz(a,h)anthracene	0.354J	0.23
SF3SB45	1-2	Arsenic	9.58	8.66
		Benzo(a)pyrene	0.966J	0.23
SF4SB46	1-2	Benzo(a)pyrene	0.921J	0.23
SG4SB56	1-2	Benzo(a)pyrene	0.248J	0.23
SG6SB59	1-2	Benzo(a)pyrene	0.276J	0.23
SI1SB69	1-2	Arsenic	9.38	8.66

Notes:

(1) Extent Evaluation Comparison Values from Table 8.

(2) Data qualifiers: J = estimated value.

TABLE 10 - SOUTH AREA PHASE 2 DEEP SOIL SAMPLE DATA

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
SA1SB15	4-5	Benzo(a)anthracene	<0.00504	2.3
		Benzo(a)pyrene	0.0269 J	0.23
		Benzo(b)fluoranthene	0.0281 J	2.3
		Dibenz(a,h)anthracene	<0.00655	0.23
		Indeno(1,2,3-cd)pyrene	0.0236 J	2.3
		Lead	12.1	151
SA2SB16	4-5	Aroclor-1254	<0.00579	0.83
		Benzo(a)pyrene	<0.00866	0.23
		Benzo(b)fluoranthene	<0.0118	2.3
		Dibenz(a,h)anthracene	<0.00661	0.23
		Lead	7.88	151
SA3SB17	4-5	Aroclor-1254	<0.00614	0.83
		Benzo(a)pyrene	<0.00928	0.23
		Lead	11.7	151
		Mercury	<0.024	0.391
SB2SB22	4-5	Aroclor-1254	0.0769	0.83
		Benzo(a)pyrene	<0.00986	0.23
SB4SB24	4-5	Aroclor-1254	0.0203 J	0.83
		Benzo(a)pyrene	0.0311 J	0.23
		Dibenz(a,h)anthracene	<0.00734	0.23
SC3SB27	4-5	Dibenz(a,h)anthracene	<0.0068	0.23
SC4SB28	4-5	Benzo(a)pyrene	<0.00899	0.23
		Lead	11.3	151
SD3SB33	4-5	Benzo(a)pyrene	<0.00924	0.23
SD5SB35	4-5	Aroclor-1254	<0.00648	0.83
		Benzo(a)anthracene	<0.00567	2.3
		Benzo(a)pyrene	<0.00966	0.23
		Benzo(b)fluoranthene	<0.0132	2.3
		Dibenz(a,h)anthracene	<0.00737	0.23
		Indeno(1,2,3-cd)pyrene	<0.0141	2.3
		Mercury	<0.028	0.391
SF2SB44	4-5	Dibenz(a,h)anthracene	<0.00752	0.23
SF3SB45	4-5	Arsenic	0.25 J	8.66
		Benzo(a)pyrene	<0.00935	0.23
SF4SB46	4-5	Benzo(a)pyrene	<0.00949	0.23
SG4SB56	4-5	Benzo(a)pyrene	<0.00965	0.23
SG6SB59	4-5	Benzo(a)pyrene	<0.00906	0.23
SI1SB69	4-5	Arsenic	<0.13	8.66

Notes:

(1) Extent Evaluation Comparison Values from Table 8.

(2) Data qualifiers: J = estimated value.

**TABLE 11 - LOT 19 / 20 SOIL SAMPLE
LEAD CONCENTRATIONS**

Sample ID	Lead Concentration (mg/kg)
L19SS01	17.3
L19SS02	18.8
L19SS03	11.2
L19SS04	8.87
L19SS05	12.0
L19SS06	19.3
L19SS07	12.8
L19SS08	12.8
L19SS09	55.3
L19SS10	17.1
L19SS11	12.1
L19SS12	13.5
L19SS13	16.7
L19SS14	16.0
L19SS15	23.2
L19SS16	18.8
L19SS17	175
L20SS01	10.8
L20SS02	222
L20SS03	23.1
L20SS04	462
L20SS05	8.61
L20SS06	23.8
L20SS07	129
L20SS08	73.6
L20SS09	84.3
L20SS10	253

Notes:

1. Data Qualifiers: none.

TABLE 12 - FORMER SURFACE IMPOUNDMENTS CAP MATERIAL DATA

Boring Location	Cap Material Description⁽¹⁾	Observed Cap Thickness (ft)	Liquid Limit⁽²⁾ (%)	Plastic Limit⁽²⁾ (%)	Plasticity Index⁽²⁾ (%)	Percent Passing # 200 Sieve⁽³⁾ (%)	Moisture Content⁽⁴⁾ (%)	Vertical Hydraulic Conductivity⁽⁵⁾ (cm/sec)
ND1GT01	Sandy Lean Clay	2.9	48	16	32	70	20	3.5×10^{-8}
ND2GT02	Lean Clay with Sand	>3.5	49	14	35	84	23	1.4×10^{-8}
NE1GT03	Lean Clay with Sand	2.5	49	13	35	74	19	5.0×10^{-9}
NE2GT04	Fat Clay	3.6	58	15	43	88	26	5.9×10^{-9}
TCEQ Technical Guideline No. 3 Recommended Value/Range			--	--	10 - 35	>20	--	$<1.0 \times 10^{-7}$

Notes:

1. Crushed oyster shell surface observed above clay cap at all four boring locations.
2. ASTM Method D 4318
3. ASTM Method D 1140
4. ASTM Method D 2216
5. US Army Corps of Engineers, Engineering Manual Method 1110-2-1906

**TABLE 13 - DETECTED SOIL CONCENTRATIONS EXCEEDING EXTENT
EVALUATION COMPARISON VALUES - NORTH AREA**

Sample Location	Sample Depth (ft below ground surface)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
ND3SB04	1-2	1,2,3-Trichloropropane	0.168	0.0014
		Trichloroethene	0.537	0.043
	4-5	1,2,3-Trichloropropane	0.0472	0.0014
		Trichloroethene	0.29J	0.043
NE3SB09	0-0.5	Benzo(a)pyrene	1.42J	0.062
		Dibenz(a,h)anthracene	0.404J-	0.062
SB-202	0-0.5	Iron	102,000	53,000
		Lead	471	18
SB-203	1.5-2	Benzo(a)pyrene	0.939	0.062
SB-204	1.5-2	Aroclor-1254	6.35J	0.22
SB-205	3-4	Iron	128,000	53,000
		Lead	630	18
SB-206	5-6	Arsenic	8.95	8.7

Notes:

(1) Extent Evaluation Comparison Values from Table 6.

(2) Data qualifiers: J = estimated value. J- = estimated value, biased low.

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	Tot ^{Sed} Comb ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
METALS						
Aluminum	1.5E+05	---	---	1.5E+05	---	1.5E+05
Antimony	8.3E+01	---	---	8.3E+01	---	8.3E+01
Arsenic	1.1E+02	8.2E+00	8.2E+00	8.2E+00	8.7E+00	8.7E+00
Barium	2.3E+04	---	---	2.3E+04	4.6E+02	2.3E+04
Beryllium	2.7E+01	---	---	2.7E+01	---	2.7E+01
Boron	1.1E+05	---	---	1.1E+05	---	1.1E+05
Cadmium	1.1E+03	1.2E+00	1.2E+00	1.2E+00	---	1.2E+00
Chromium	3.6E+04	8.1E+01	8.1E+01	8.1E+01	2.4E+01	8.1E+01
Chromium (VI)	1.4E+02	---	---	1.4E+02	---	1.4E+02
Cobalt	3.2E+04	---	---	3.2E+04	---	3.2E+04
Copper	2.1E+04	3.4E+01	3.4E+01	3.4E+01	2.4E+01	3.4E+01
Iron	---	---	---	NV	---	NV
Lead	5.0E+02	4.7E+01	4.7E+01	4.7E+01	1.8E+01	4.7E+01
Lithium	1.1E+04	---	---	1.1E+04	3.6E+01	1.1E+04
Manganese	1.4E+04	---	---	1.4E+04	6.5E+02	1.4E+04
Mercury	3.4E+01	1.5E-01	1.5E-01	1.5E-01	3.5E-02	1.5E-01
Molybdenum	1.8E+03	---	---	1.8E+03	7.4E-01	1.8E+03
Nickel	1.4E+03	2.1E+01	2.1E+01	2.1E+01	---	2.1E+01
Selenium	2.7E+03	---	---	2.7E+03	---	2.7E+03
Silver	3.5E+02	1.0E+00	1.0E+00	1.0E+00	---	1.0E+00
Strontium	1.5E+05	---	---	1.5E+05	---	1.5E+05
Thallium	4.3E+01	---	---	4.3E+01	---	4.3E+01
Tin	9.2E+04	---	---	9.2E+04	---	9.2E+04
Titanium	1.0E+06	---	---	1.0E+06	---	1.0E+06
Vanadium	3.3E+02	---	---	3.3E+02	---	3.3E+02
Zinc	7.6E+04	1.5E+02	1.5E+02	1.5E+02	2.8E+02	2.8E+02
PESTICIDES						
4,4'-DDD	1.2E+02	1.2E-03	1.2E-03	1.2E-03	---	1.2E-03
4,4'-DDE	8.7E+01	2.1E-03	2.1E-03	2.1E-03	---	2.1E-03
4,4'-DDT	8.7E+01	1.2E-03	1.2E-03	1.2E-03	---	1.2E-03

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Aldrin	8.4E-01	---	---	8.4E-01	---	8.4E-01
alpha-BHC	4.1E+00	---	---	4.1E+00	---	4.1E+00
alpha-Chlordane	4.1E+01	2.3-03 ⁽⁷⁾	---	2.3E-03	---	2.3E-03
beta-BHC	1.4E+01	---	---	1.4E+01	---	1.4E+01
delta-BHC	1.4E+01	---	---	1.4E+01	---	1.4E+01
Dieldrin	8.9E-01	7.2E-04	7.2E-04	7.2E-04	---	7.2E-04
Endosulfan I	3.1E+02	---	2.9E-03	2.9E-03	---	2.9E-03
Endosulfan II	9.2E+02	---	1.4E-02	1.4E-02	---	1.4E-02
Endosulfan sulfate	9.2E+02	---	---	9.2E+02	---	9.2E+02
Endrin	4.6E+01	---	3.5E-03	3.5E-03	---	3.5E-03
Endrin aldehyde	4.6E+01	---	---	4.6E+01	---	4.6E+01
Endrin ketone	4.6E+01	---	---	4.6E+01	---	4.6E+01
gamma-BHC (Lindane)	2.0E+01	3.2E-04	3.2E-04	3.2E-04	---	3.2E-04
gamma-Chlordane	4.1E+01	2.3-03 ⁽⁷⁾	---	2.3E-03	---	2.3E-03
Heptachlor	3.2E+00	---	---	3.2E+00	---	3.2E+00
Heptachlor epoxide	1.6E+00	---	---	1.6E+00	---	1.6E+00
Methoxychlor	7.7E+02	---	1.9E-02	1.9E-02	---	1.9E-02
Toxaphene	1.3E+01	---	2.8E-02	2.8E-02	---	2.8E-02
PCBs	2.3E+00	2.3E-02	---	2.3E-02	---	2.3E-02
Aroclor-1016	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1221	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1232	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1242	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1248	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1254	---	---	---	0.0E+00	---	0.0E+00
Aroclor-1260	---	---	---	0.0E+00	---	0.0E+00
VOCs						
1,1,1,2-Tetrachloroethane	2.1E+03	---	---	2.1E+03	---	2.1E+03
1,1,1-Trichloroethane	1.5E+05	2.6E+00	1.7E-01	1.7E-01	---	1.7E-01
1,1,2,2-Tetrachloroethane	2.7E+02	6.1E-01	9.4E-01	6.1E-01	---	6.1E-01
1,1,2-Trichloroethane	9.6E+02	3.0E-01	---	3.0E-01	---	3.0E-01

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
1,1-Dichloroethane	7.3E+04	---	---	7.3E+04	---	7.3E+04
1,1-Dichloroethene	3.7E+04	1.5E+01	---	1.5E+01	---	1.5E+01
1,1-Dichloropropene	5.4E+02	---	---	5.4E+02	---	5.4E+02
1,2,3-Trichloropropane	7.8E+00	---	---	7.8E+00	---	7.8E+00
1,2,4-Trichlorobenzene	1.5E+03	3.9E-01	9.2E+00	3.9E-01	---	3.9E-01
1,2,4-Trimethylbenzene	3.7E+04	2.2E+00	---	2.2E+00	---	2.2E+00
1,2-Dibromo-3-chloropropane	1.0E+01	---	---	1.0E+01	---	1.0E+01
1,2-Dibromoethane	2.7E+01	---	---	2.7E+01	---	2.7E+01
1,2-Dichlorobenzene	6.6E+04	7.4E-01	3.4E-01	3.4E-01	---	3.4E-01
1,2-Dichloroethane	6.0E+02	4.3E+00	---	4.3E+00	---	4.3E+00
1,2-Dichloropropane	8.0E+02	2.8E+00	---	2.8E+00	---	2.8E+00
1,3,5-Trimethylbenzene	3.7E+04	---	---	3.7E+04	---	3.7E+04
1,3-Dichlorobenzene	2.2E+04	3.2E-01	1.7E+00	3.2E-01	---	3.2E-01
1,3-Dichloropropane	5.4E+02	4.0E-02	---	4.0E-02	---	4.0E-02
1,4-Dichlorobenzene	2.3E+03	7.0E-01	3.5E-01	3.5E-01	---	3.5E-01
2,2-Dichloropropane	8.0E+02	---	---	8.0E+02	---	8.0E+02
2-Butanone	4.4E+05	---	---	4.4E+05	---	4.4E+05
2-Chloroethylvinyl ether	5.0E+01	---	---	5.0E+01	---	5.0E+01
2-Chlorotoluene	3.1E+03	---	---	3.1E+03	---	3.1E+03
2-Hexanone	4.4E+04	---	---	4.4E+04	---	4.4E+04
4-Chlorotoluene	1.5E+04	---	---	1.5E+04	---	1.5E+04
4-Isopropyltoluene	7.3E+04	---	---	7.3E+04	---	7.3E+04
4-Methyl-2-pentanone	5.9E+04	4.5E+01	---	4.5E+01	---	4.5E+01
Acetone	6.6E+05	1.7E+02	---	1.7E+02	---	1.7E+02
Acrolein	3.7E+02	---	---	3.7E+02	---	3.7E+02
Acrylonitrile	1.0E+02	1.7E-01	---	1.7E-01	---	1.7E-01
Benzene	9.9E+02	1.4E-01	5.7E-02	5.7E-02	---	5.7E-02
Bromobenzene	1.5E+04	---	---	1.5E+04	---	1.5E+04
Bromodichloromethane	8.8E+02	---	---	8.8E+02	---	8.8E+02
Bromoform	6.9E+03	1.8E+00	6.5E-01	6.5E-01	---	6.5E-01
Bromomethane	1.0E+03	---	---	1.0E+03	---	1.0E+03

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Butanol	7.3E+04	---	---	7.3E+04	---	7.3E+04
Carbon disulfide	7.3E+04	---	---	7.3E+04	---	7.3E+04
Carbon tetrachloride	4.2E+02	3.7E+00	1.2E+00	1.2E+00	---	1.2E+00
Chlorobenzene	1.5E+04	2.9E-01	8.2E-01	2.9E-01	---	2.9E-01
Chloroethane	2.9E+05	---	---	2.9E+05	---	2.9E+05
Chloroform	7.3E+03	4.3E+00	---	4.3E+00	---	4.3E+00
Chloromethane	4.2E+03	8.7E+00	---	8.7E+00	---	8.7E+00
cis-1,2-Dichloroethene	7.3E+03	---	---	7.3E+03	---	7.3E+03
cis-1,3-Dichloropropene	7.3E+01	---	---	7.3E+01	---	7.3E+01
Dibromochloromethane	6.5E+02	---	---	6.5E+02	---	6.5E+02
Dibromomethane	7.3E+03	---	---	7.3E+03	---	7.3E+03
Dichlorodifluoromethane	1.5E+05	---	---	1.5E+05	---	1.5E+05
Ethylbenzene	7.3E+04	6.5E-01	3.6E+00	6.5E-01	---	6.5E-01
Hexachlorobutadiene	3.1E+01	2.0E-02	---	2.0E-02	---	2.0E-02
Isopropylbenzene (Cumene)	7.3E+04	---	---	7.3E+04	---	7.3E+04
Methyl acetate	7.3E+05	---	---	7.3E+05	---	7.3E+05
Methyl iodide	1.0E+03	---	---	1.0E+03	---	1.0E+03
Methylcyclohexane	1.0E+06	---	---	1.0E+06	---	1.0E+06
Methylene chloride	7.3E+03	3.8E+00	---	3.8E+00	---	3.8E+00
Naphthalene	2.5E+03	1.6E-01	1.6E-01	1.6E-01	---	1.6E-01
n-Butylbenzene	6.1E+03	---	---	6.1E+03	---	6.1E+03
n-Propylbenzene	2.9E+04	---	---	2.9E+04	---	2.9E+04
o-Xylene	1.0E+06	---	---	1.0E+06	---	1.0E+06
sec-Butylbenzene	2.9E+04	---	---	2.9E+04	---	2.9E+04
Styrene	1.5E+05	3.7E+00	---	3.7E+00	---	3.7E+00
tert-Butyl methyl ether (MTBE)	7.3E+03	---	---	7.3E+03	---	7.3E+03
tert-Butylbenzene	2.9E+04	---	---	2.9E+04	---	2.9E+04
Tetrachloroethene	1.0E+03	3.1E+00	5.3E-01	5.3E-01	---	5.3E-01
Toluene	5.9E+04	9.4E-01	6.7E-01	6.7E-01	---	6.7E-01
trans-1,2-Dichloroethene	1.5E+04	---	---	1.5E+04	---	1.5E+04
trans-1,3-Dichloropropene	5.4E+02	---	---	5.4E+02	---	5.4E+02

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Trichloroethene	4.4E+03	1.5E+00	1.6E+00	1.5E+00	---	1.5E+00
Trichlorofluoromethane	2.2E+05	---	---	2.2E+05	---	2.2E+05
Trichlorotrifluoroethane	1.0E+06	---	---	1.0E+06	---	1.0E+06
Vinyl acetate	7.3E+05	---	---	7.3E+05	---	7.3E+05
Vinyl chloride	3.6E+01	---	---	3.6E+01	---	3.6E+01
Xylene (total)	1.5E+05	2.5E+00	---	2.5E+00	---	2.5E+00
SVOCs						
1,2Diphenylhydrazine/Azobenzen	1.3E+02	---	---	1.3E+02	---	1.3E+02
2,4,5-Trichlorophenol	1.5E+04	---	---	1.5E+04	---	1.5E+04
2,4,6-Trichlorophenol	1.3E+03	---	---	1.3E+03	---	1.3E+03
2,4-Dichlorophenol	4.6E+02	---	---	4.6E+02	---	4.6E+02
2,4-Dimethylphenol	3.1E+03	---	---	3.1E+03	---	3.1E+03
2,4-Dinitrophenol	3.1E+02	---	---	3.1E+02	---	3.1E+02
2,4-Dinitrotoluene	2.1E+01	---	---	2.1E+01	---	2.1E+01
2,6-Dinitrotoluene	2.1E+01	---	---	2.1E+01	---	2.1E+01
2-Chloronaphthalene	9.9E+03	---	---	9.9E+03	---	9.9E+03
2-Chlorophenol	3.7E+03	---	---	3.7E+03	---	3.7E+03
2-Methylnaphthalene	4.9E+02	7.0E-02	7.0E-02	7.0E-02	---	7.0E-02
2-Nitroaniline	4.6E+01	---	---	4.6E+01	---	4.6E+01
2-Nitrophenol	3.1E+02	---	---	3.1E+02	---	3.1E+02
3,3'-Dichlorobenzidine	3.2E+01	---	---	3.2E+01	---	3.2E+01
3-Nitroaniline	4.6E+01	---	---	4.6E+01	---	4.6E+01
4,6-Dinitro-2-methylphenol	3.1E+02	---	---	3.1E+02	---	3.1E+02
4-Bromophenyl phenyl ether	9.5E-01	---	1.3E+00	9.5E-01	---	9.5E-01
4-Chloro-3-methylphenol	7.7E+02	---	---	7.7E+02	---	7.7E+02
4-Chloroaniline	6.1E+02	---	---	6.1E+02	---	6.1E+02
4-Chlorophenyl phenyl ether	9.5E-01	---	---	9.5E-01	---	9.5E-01
4-Nitroaniline	3.7E+02	---	---	3.7E+02	---	3.7E+02
4-Nitrophenol	3.1E+02	---	---	3.1E+02	---	3.1E+02
Acenaphthene	7.4E+03	1.6E-02	1.6E-02	1.6E-02	---	1.6E-02
Acenaphthylene	7.4E+03	4.4E-02	4.4E-02	4.4E-02	---	4.4E-02

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Acetophenone	1.5E+04	---	---	1.5E+04	---	1.5E+04
Aniline	1.1E+03	---	---	1.1E+03	---	1.1E+03
Anthracene	3.7E+04	8.5E-02	8.5E-02	8.5E-02	---	8.5E-02
Atrazine (Aatrex)	6.4E+01	---	---	6.4E+01	---	6.4E+01
Benzaldehyde	7.3E+04	---	---	7.3E+04	---	7.3E+04
Benzidine	6.2E-02	---	---	6.2E-02	---	6.2E-02
Benzo(a)anthracene	1.6E+01	2.6E-01	2.6E-01	2.6E-01	---	2.6E-01
Benzo(a)pyrene	1.6E+00	4.3E-01	4.3E-01	4.3E-01	---	4.3E-01
Benzo(b)fluoranthene	1.6E+01	---	---	1.6E+01	---	1.6E+01
Benzo(g,h,i)perylene	3.7E+03	---	---	3.7E+03	---	3.7E+03
Benzo(k)fluoranthene	1.6E+02	---	---	1.6E+02	---	1.6E+02
Benzoic acid	6.1E+05	---	---	6.1E+05	---	6.1E+05
Benzyl alcohol	4.6E+04	---	---	4.6E+04	---	4.6E+04
Biphenyl	7.7E+03	---	1.1E+00	1.1E+00	---	1.1E+00
Bis(2-Chloroethoxy)methane	1.3E+01	---	---	1.3E+01	---	1.3E+01
Bis(2-Chloroethyl)ether	5.0E+01	---	---	5.0E+01	---	5.0E+01
Bis(2-Chloroisopropyl)ether	2.0E+02	---	---	2.0E+02	---	2.0E+02
Bis(2-Ethylhexyl)phthalate	2.4E+02	1.8E-01	1.8E-01	1.8E-01	---	1.8E-01
Butyl benzyl phthalate	3.1E+04	---	1.1E+01	1.1E+01	---	1.1E+01
Caprolactam	7.7E+04	---	---	7.7E+04	---	7.7E+04
Carbazole	7.1E+02	---	---	7.1E+02	---	7.1E+02
Chrysene	1.6E+03	3.8E-01	3.8E-01	3.8E-01	---	3.8E-01
Dibenz(a,h)anthracene	1.6E+00	6.3E-02	6.3E-02	6.3E-02	---	6.3E-02
Dibenzofuran	6.1E+02	---	2.0E+00	2.0E+00	---	2.0E+00
Diethyl phthalate	1.2E+05	---	6.3E-01	6.3E-01	---	6.3E-01
Dimethyl phthalate	1.2E+05	---	---	1.2E+05	---	1.2E+05
Di-n-butyl phthalate	1.5E+04	---	1.1E+01	1.1E+01	---	1.1E+01
Di-n-octyl phthalate	3.1E+03	---	---	3.1E+03	---	3.1E+03
Fluoranthene	4.9E+03	6.0E-01	6.0E-01	6.0E-01	---	6.0E-01
Fluorene	4.9E+03	1.9E-02	1.9E-02	1.9E-02	---	1.9E-02
Hexachlorobenzene	8.9E+00	---	---	8.9E+00	---	8.9E+00

TABLE 14 - WETLAND AND POND SEDIMENT EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 21 of RI/FS Work Plan ⁽²⁾			PSV	Potential Site-Specific Background Values ⁽⁶⁾	Extent Evaluation Comparison Value
	TotSed _{Comb} ⁽³⁾	TCEQ Ecological Benchmark for Sediment ⁽⁴⁾	EPA EcoTox Threshold ⁽⁵⁾			
Hexachlorocyclopentadiene	9.2E+02	---	---	9.2E+02	---	9.2E+02
Hexachloroethane	1.5E+02	---	1.0E+00	1.0E+00	---	1.0E+00
Indeno(1,2,3-cd)pyrene	1.6E+01	---	---	1.6E+01	---	1.6E+01
Isophorone	1.5E+04	---	---	1.5E+04	---	1.5E+04
Nitrobenzene	7.7E+01	---	---	7.7E+01	---	7.7E+01
n-Nitrosodimethylamine	1.1E+00	---	---	1.1E+00	---	1.1E+00
n-Nitrosodi-n-propylamine	6.3E-01	---	---	6.3E-01	---	6.3E-01
n-Nitrosodiphenylamine	9.0E+02	---	---	9.0E+02	---	9.0E+02
o-Cresol	7.7E+03	---	---	7.7E+03	---	7.7E+03
Pentachlorophenol	5.6E+01	---	---	5.6E+01	---	5.6E+01
Phenanthrene	3.7E+03	2.4E-01	2.4E-01	2.4E-01	---	2.4E-01
Phenol	4.6E+04	---	---	4.6E+04	---	4.6E+04
Pyrene	3.7E+03	6.7E-01	6.7E-01	6.7E-01	---	6.7E-01
Pyridine	7.3E+02	---	---	7.3E+02	---	7.3E+02
Chloride	---	---	---	NV	NV	NV
Sulfate	---	---	---	NV	NV	NV
Total Moisture	---	---	---	NV	NV	NV
Total Organic Carbon	---	---	---	NV	NV	NV

Notes

1. All values in mg/kg.
2. Values from Table 21 of RI/FS Work Plan (updated to reflect changes since 2005 where applicable).
3. TotSed_{Comb} PCL = TCEQ Protective Concentration Level for total sediment combined pathway (includes inhalation; ingestion; dermal pathways).
4. From Table 3-3 of TCEQ "Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas".
5. From Table 2 of EPA "Ecotox Thresholds" ECO Update January 1996.
6. 95% UTL calculated from site-specific background samples.
7. Value listed is for total Chlordane.
8. NV = No Preliminary Screening Value.

TABLE 15 - DETECTED WETLAND SEDIMENT CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
NA1SE01	0-0.5	4,4'-DDT	0.00204J	0.00119
NA2SE02	0-0.5	4,4'-DDT	0.00194J	0.00119
NA3SE03	0-0.5	4,4'-DDT	0.0016J	0.00119
NA4SE04	0-0.5	4,4'-DDT	0.00454J	0.00119
NB1SE05	0-0.5	Nickel	23.1	20.9
NB2SE06	1-2	2-Methylnaphthalene	0.43	0.07
		Acenaphthene	0.037J	0.016
		Fluorene	0.088	0.019
NB3SE07	0-0.5	4,4'-DDT	0.00186J	0.00119
NB4SE08	0-0.5	4,4'-DDT	0.00922J+	0.00119
		Acenaphthene	0.113	0.016
		Anthracene	0.188	0.0853
		Benzo(a)anthracene	0.993	0.261
		Benzo(a)pyrene	1.3J	0.43
		Chrysene	1.27	0.384
		Copper	39.6	34
		Dibenz(a,h)anthracene	0.337J-	0.0634
		Fluoranthene	2.17	0.6
		Fluorene	0.127	0.019
		Lead	88.1	46.7
		Phenanthrene	1.3	0.24
		Pyrene	1.64J-	0.665
		Zinc	601	280
NC3SE11	0-0.5	4,4'-DDT	0.00143J	0.00119
NC4SE12	0-0.5	4,4'-DDT	0.00468J+	0.00119

TABLE 15 - DETECTED WETLAND SEDIMENT CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
NF4SE13	0-0.5	4,4'-DDT	0.00254J+	0.00119
		Arsenic	12.8	8.66
		Copper	35.7	34
		Lead	64.7	46.7
		Nickel	27.7	20.9
		Zinc	903	280
NG1SE14	0-0.5	Nickel	23.8	20.9
NG2SE15	0-0.5	4,4'-DDT	0.00189J	0.00119
NG4SE17	0-0.5	Dieldrin	0.00266	0.000715
		Zinc	255	280
2WSED3	0-0.5	Acenaphthylene	0.346J	0.044
		Anthracene	0.241J	0.0853
		Benzo(a)pyrene	0.631J	0.43
		Chrysene	2.73	0.384
		Dibenz(a,h)anthracene	2.83	0.0634
		Pyrene	0.729J	0.665
2WSED4	0-0.5	4,4'-DDE	0.00256J	0.00207
		Acenaphthylene	0.545J	0.044
		Anthracene	0.334J	0.0853
		Benzo(a)pyrene	0.972	0.43
		Chrysene	4.05	0.384
		Dibenz(a,h)anthracene	2.91	0.0634
		Dieldrin	0.00211J	0.000715
		Nickel	21.3	20.9
		Pyrene	1.18	0.665
2WSED5	0-0.5	Acenaphthylene	0.139J	0.044
		Dibenz(a,h)anthracene	1.83	0.0634

TABLE 15 - DETECTED WETLAND SEDIMENT CONCENTRATIONS EXCEEDING EXTENT EVALUATION COMPARISON VALUES

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/kg)
2WSED9	0-0.5	4,4'-DDT	0.00206J	0.00119
		Dibenz(a,h)anthracene	0.129	0.0634
2WSED10	0-0.5	4,4'-DDT	0.0015J	0.00119
2WSED12	0-0.5	4,4'-DDT	0.00212J	0.00119
2WSED15	0-0.5	Chrysene	0.39J	0.384
		Copper	49	34
		Lead	50	46.7
		Zinc	539	280
2WSED17	0-0.5	Acenaphthene	0.133	0.016
		Anthracene	0.257	0.0853
		Benzo(a)anthracene	0.724	0.261
		Benzo(a)pyrene	0.618	0.43
		Chrysene	0.743	0.384
		Dibenz(a,h)anthracene	0.312	0.0634
		Fluoranthene	1.43	0.6
		Fluorene	0.139	0.019
		Lead	237	46.7
		Phenanthrene	1.18	0.24
		Pyrene	1.34	0.665
		Zinc	404	280
3WSED9	0-0.5	Zinc	319 J	280

Notes:

(1) Extent Evaluation Comparison Values from Table 14.

(2) Data Qualifiers: J = estimated value; J- = estimated value, biased low; J+ = estimated value, biased high.

**TABLE 16 - DETECTED WETLAND SURFACE WATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Chemical of Interest	Total or Dissolved	Concentration (mg/L)	Extent Evaluation Comparison Value⁽¹⁾ (mg/L)
2WSW1	Acrolein	Total	0.00929J	0.005
	Copper	Dissolved	0.011J	0.0036
	Mercury	Total	0.00004J	0.000025
2WSW2	Copper	Dissolved	0.0053J	0.0036
	Mercury	Dissolved	0.00011J	0.000025
		Total	0.00007J	0.000025
2WSW6	Copper	Dissolved	0.0068J	0.0036
	Manganese	Total	0.34	0.1
		Dissolved	0.33	0.1

Notes:

(1) Extent Evaluation Comparison Values from Table 4.

(2) Data Qualifier: J = estimated value.

**TABLE 17 - DETECTED POND SEDIMENT CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Chemical of Interest	Concentration (mg/kg)	Extent Evaluation Comparison Value⁽¹⁾ (mg/kg)
SPSE01	Zinc	614	280
SPSE02	Zinc	813	280
SPSE03	4,4'-DDT	0.00157J	0.00119
	Zinc	999	280

Notes:

(1) Extent Evaluation Comparison Values from Table 14.

(2) Data Qualifier: J = estimated value.

**TABLE 18 - DETECTED POND SURFACE WATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Chemical of Interest	Total or Dissolved	Concentration (mg/L)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/L)
FWPSW01	Arsenic	Total	0.013J	0.0014
	Silver	Dissolved	0.0027J	0.00019
	Thallium	Total	0.0077J	0.00047
FWPSW02	Arsenic	Total	0.012J	0.0014
	Silver	Dissolved	0.0021J	0.00019
FWPSW03	Silver	Dissolved	0.0029J	0.00019
	Thallium	Total	0.0062J	0.00047
SPSW01	Manganese	Total	1.29	0.1
	Manganese	Dissolved	1.06	0.1
	Silver	Dissolved	0.00095J	0.00019
	Thallium	Dissolved	0.0014J	0.00047
SPSW02	Manganese	Total	1.44	0.1
	Manganese	Dissolved	0.89	0.1
	Silver	Dissolved	0.00094J	0.00019
	Thallium	Dissolved	0.0032J	0.00047
SPSW03	Manganese	Total	0.82	0.1
	Manganese	Dissolved	0.74	0.1
	Silver	Dissolved	0.0014J	0.00019
	Thallium	Dissolved	0.0019J	0.00047

Notes:

(1) Extent Evaluation Comparison Values from Table 4.

(2) Data Qualifier: J = estimated value.

**TABLE 19 - DETECTED CONCENTRATIONS IN SBMW29-01
AND SBMW30-01 SOIL SAMPLES**

Sample Location	Sample Depth (ft)	Chemical of Interest	Concentration (mg/kg)
SBMW29-01	12.5-13.5	1,1,1-Trichloroethane	3750
		1,1-Dichloroethane	67.3J
		1,1-Dichloroethene	128J
		1,2,3-Trichloropropane	471
		1,2-Dichloroethane	595
		Benzene	84.3J
		Benzo(b)fluoranthene	0.017J
		Fluoranthene	0.03J
		Fluorene	0.013J
		Isopropylbenzene (Cumene)	93.7J
		Methylene chloride	1130
		Naphthalene	102J
		Phenanthrene	0.057J
		Tetrachloroethene	4340
		Toluene	108J
		Trichloroethene	2150
SBMW30-01	33.6-34.1	1,1,1-Trichloroethane	4590
		1,2,3-Trichloropropane	1220
		2-Methylnaphthalene	52.8
		Acenaphthene	18.9J
		Acenaphthylene	11.5
		Aldrin	0.037
		Anthracene	18
		Benzo(a)anthracene	31.9
		Benzo(a)pyrene	18.4
		Benzo(b)fluoranthene	37.7
		Benzo(g,h,i)perylene	20.4
		Biphenyl	12.1J
		Carbazole	15.2
		Chrysene	36.8
		Dibenz(a,h)anthracene	8.93
		Dibenzofuran	29.9
		Endosulfan II	0.025J
		Endrin aldehyde	0.049J
		Fluoranthene	86.1
		Fluorene	44.1
		gamma-BHC (Lindane)	0.00796J
		Heptachlor epoxide	0.167J
		Indeno(1,2,3-cd)pyrene	19.5
		Naphthalene	317J
		Phenanthrene	172
		Pyrene	80
		Tetrachloroethene	8420
		Toluene	170J
		Trichloroethene	6610

Notes:

(1) Data qualifier: J = estimated value.

**TABLE 20 - MONITORING WELL/PIEZOMETER
CONSTRUCTION INFORMATION**

Well Name	Top of Casing (TOC) Elevation (Feet Above Mean Sea Level) ⁽¹⁾	Ground Surface Elevation (Feet Above Mean Sea Level) ⁽¹⁾	Total Boring Depth (Feet below Ground Surface)	Monitoring Well/Piezometer Screened Interval (Feet below Ground Surface)
Zone A				
ND2MW01	5.09	1.9	17.0	5.0-15.0
ND3MW02	6.41	3.7	22.0	11.5-21.5
ND4MW03	6.20	3.2	20.0	7.5-17.5
NE1MW04	4.90	2.1	17.0	6.5-16.5
NE3MW05	6.53	3.3	22.0	5-15.5
NF2MW06	5.35	2.2	20.0	6.0-16.0
SB4MW07	7.57	4.6	20.0	9.5-19.5
SE1MW08	7.54	4.4	20.0	8.5-18.5
SE6MW09	7.66	4.7	20.0	9.5-19.5
SF5MW10	8.01	5.0	20.0	9.0-19.0
SF6MW11	8.11	5.0	20.0	8.0-18.0
SF7MW12	7.96	4.7	20.0	8.5-18.5
SG2MW13	7.71	4.5	22.0	6.0-16.0
SH7MW14	8.10	5.2	22.0	10.0-20.0
SJ1MW15	5.61	2.5	25.0	10.0-20.0
SJ7MW16	7.19	4.7	25.0	12.5-22.5
SL8MW17	5.87	2.9	33.0	15.0-25.0
NB4MW18	4.96	2.5	20.0	7.5-17.5
NG3MW19	5.08	2.2	17.0	4.0-13.5
OMW20	4.88	1.6	17.5	6.0-15.5
OMW21	5.73	2.4	20.0	8.0-18.0
SA4MW22	7.79	5.5	15.0	4.5-14.5
NC2MW28	4.76	1.8	15.0	5-14.5
ND3MW29	5.33	2.9	17.5	7.0-17.0
NB4PZ01	NM ⁽²⁾	2.3	22.0	9.0-19.0
NC3PZ02	NM	2.9	28.0	12.5-22.5
ND1PZ03	NM	2.2	18.0	5.5-15.5
ND3PZ04	NM	2.4	20.0	7.0-17.0
NF1PZ05	NM	2.2	18.0	8.0-18.0
NF3PZ06	NM	2.5	16.0	3-13
SA4PZ07	NM	5.4	24.0	12-22
SD3PZ08	NM	5.6	28.0	12-22

**TABLE 20 - MONITORING WELL/PIEZOMETER
CONSTRUCTION INFORMATION**

Well Name	Top of Casing (TOC) Elevation (Feet Above Mean Sea Level) ⁽¹⁾	Ground Surface Elevation (Feet Above Mean Sea Level) ⁽¹⁾	Total Boring Depth (Feet below Ground Surface)	Monitoring Well/Piezometer Screened Interval (Feet below Ground Surface)
Zone B				
NC2B23B	NA ⁽³⁾	2.0	40.0	NA
ND4MW24B	5.70	3.5	34.0	21.5-26.5
NG3MW25B	4.91	2.2	35.0	17.0-27.0
OB26B	NA	1.6	40.0	NA
OMW27B	5.45	2.8	30.0	24.5-27
NE3MW30B	6.70	3.5	35.5	25-35
NE4MW31B	6.01	3.0	45.0	18-28
Zone C				
NG3CPT1	5.79	2.1	73.0	63-73
NE4CPT2	6.77	3.2	73.0	63-73
NC2CPT3	5.36	1.7	69.0	59-69
OCPT4	6.38	2.7	73.0	63-73
OCPT5	5.32	1.5	80.0	59-64,69-74
NE4MW32C	6.31	3.2	80.0	64-74

Notes:

(1) Mean Sea Level - NGVD 1929.

(2) NM = Not measured. Temporary piezometer at this location.

(3) NA = Not Applicable. Well not constructed in this boring - Zone B not present.

**TABLE 21 -
SLUG TEST RESULTS**

Well Number	Test Type	Water-Bearing Unit Type	Water-Bearing Zone	Water-Bearing Unit Thickness (ft)	Hydraulic Conductivity (cm/sec)
ND4MW03	Slug	Confined	A	13	8×10^{-5}
NE1MW04	Slug	Confined	A	12	4×10^{-5}
SJ1MW15	Slug	Confined	A	12.5	7×10^{-5}
ND4MW24B	Slug	Confined	B	5	1×10^{-4}
NG3MW25B	Slug	Confined	B	16	5×10^{-4}
OMW27B	Slug	Confined	B	3	2×10^{-5}

TABLE 22 - WATER LEVEL MEASUREMENTS

Well ID	Ground Surface Elevation (ft AMSL ²)	Total Boring Depth (ft BGS ³)	Screened Interval (ft BGS ³)	Date	TOC ¹ Elevation (ft AMSL ²)	Depth to Water (ft BTOC ⁴)	Water Elevation (ft AMSL ²)
ND2MW01	1.9	17.0	5.0-15.0	8/4/2006	5.09	3.94	1.15
				10/5/2006	5.09	3.95	1.14
				6/6/2007	5.09	4.23	0.86
				9/6/2007	5.09	4.02	1.07
				11/7/2007	5.09	4.31	0.78
				12/3/2007	5.09	4.13	0.96
				6/17/2008	5.09	5.99	-0.90
ND3MW02	3.7	22.0	11.5-21.5	8/4/2006	6.41	4.21	2.20
				10/5/2006	6.41	4.27	2.14
				6/6/2007	6.41	4.59	1.82
				9/6/2007	6.41	4.27	2.14
				11/7/2007	6.41	4.93	1.48
				12/3/2007	6.41	4.46	1.95
				6/17/2008	6.41	6.67	-0.26
ND4MW03	3.2	20.0	7.5-17.5	8/4/2006	6.20	4.11	2.09
				10/5/2006	6.20	4.13	2.07
				6/6/2007	6.20	4.42	1.78
				9/6/2007	6.20	3.84	2.36
				11/7/2007	6.20	4.47	1.73
				12/3/2007	6.20	3.73	2.47
				6/17/2008	6.20	6.31	-0.11
NE1MW04	2.1	17.0	6.5-16.5	8/4/2006	4.90	4.81	0.09
				10/5/2006	4.90	3.87	1.03
				6/6/2007	4.90	4.12	0.78
				9/6/2007	4.90	3.93	0.97
				11/7/2007	4.90	3.62	1.28
				12/3/2007	4.90	3.47	1.43
				6/17/2008	4.90	5.43	-0.53
NE3MW05	3.3	22.0	5-15.5	8/4/2006	6.53	3.60	2.93
				10/5/2006	6.53	3.66	2.87
				6/6/2007	6.53	3.92	2.61
				9/6/2007	6.53	3.63	2.90
				11/7/2007	6.53	5.21	1.32
				12/3/2007	6.53	5.03	1.50
				6/17/2008	6.53	6.33	0.20
NF2MW06	2.2	20.0	6.0-16.0	8/4/2006	5.35	3.71	1.64
				10/5/2006	5.35	3.79	1.56
				6/6/2007	5.35	4.06	1.29
				9/6/2007	5.35	3.89	1.46
				11/7/2007	5.35	3.57	1.78
				12/3/2007	5.35	3.27	2.08
				6/17/2008	5.35	4.93	0.42
SB4MW07	4.6	20.0	9.5-19.5	8/4/2006	7.57	6.60	0.97
				10/5/2006	7.57	5.65	1.92
				6/6/2007	7.57	5.38	2.19
				9/6/2007	7.57	5.57	2.00
				11/7/2007	7.57	6.06	1.51
				12/3/2007	7.57	6.14	1.43
				6/17/2008	7.57	5.92	1.65
SE1MW08	4.4	20.0	8.5-18.5	8/4/2006	7.54	5.19	2.35
				10/5/2006	7.54	5.36	2.18
				6/6/2007	7.54	5.37	2.17
				9/6/2007	7.54	5.31	2.23
				11/7/2007	7.54	6.03	1.51
				12/3/2007	7.54	5.21	2.33
				6/17/2008	7.54	6.81	0.73

TABLE 22 - WATER LEVEL MEASUREMENTS

Well ID	Ground Surface Elevation (ft AMSL ²)	Total Boring Depth (ft BGS ³)	Screened Interval (ft BGS ³)	Date	TOC ¹ Elevation (ft AMSL ²)	Depth to Water (ft BTOC ⁴)	Water Elevation (ft AMSL ²)
SE6MW09	4.7	20.0	9.5-19.5	8/4/2006	7.66	6.04	1.62
				10/5/2006	7.66	5.84	1.82
				6/6/2007	7.66	5.82	1.84
				9/6/2007	7.66	5.72	1.94
				11/7/2007	7.66	6.09	1.57
				12/3/2007	7.66	5.74	1.92
				6/17/2008	7.66	6.43	1.23
SF5MW10	5.0	20.0	9.0-19.0	8/4/2006	8.01	5.88	2.13
				10/5/2006	8.01	6.01	2.00
				6/6/2007	8.01	5.79	2.22
				9/6/2007	8.01	5.75	2.26
				11/7/2007	8.01	5.97	2.04
				12/3/2007	8.01	6.01	2.00
				6/17/2008	8.01	7.03	0.98
SF6MW11	5.0	20.0	8.0-18.0	8/4/2006	8.11	6.62	1.49
				10/5/2006	8.11	6.43	1.68
				6/6/2007	8.11	6.37	1.74
				9/6/2007	8.11	6.34	1.77
				11/7/2007	8.11	6.71	1.40
				12/3/2007	8.11	6.39	1.72
				6/17/2008	8.11	6.97	1.14
SF7MW12	4.7	20.0	8.5-18.5	8/4/2006	7.96	6.41	1.55
				10/5/2006	7.96	6.15	1.81
				6/6/2007	7.96	6.52	1.44
				9/6/2007	7.96	6.59	1.37
				11/7/2007	7.96	6.64	1.32
				12/3/2007	7.96	6.44	1.52
				6/17/2008	7.96	6.76	1.20
SG2MW13	4.5	22.0	6.0-16.0	8/4/2006	7.71	5.65	2.06
				10/5/2006	7.71	5.96	1.75
				6/6/2007	7.71	5.62	2.09
				9/6/2007	7.71	5.56	2.15
				11/7/2007	7.71	6.68	1.03
				12/3/2007	7.71	6.07	1.64
				6/17/2008	7.71	7.18	0.53
SH7MW14	5.2	22.0	10.0-20.0	8/4/2006	8.10	6.41	1.69
				10/5/2006	8.10	6.36	1.74
				6/6/2007	8.10	6.02	2.08
				9/6/2007	8.10	6.21	1.89
				11/7/2007	8.10	6.74	1.36
				12/3/2007	8.10	6.43	1.67
				6/17/2008	8.10	6.84	1.26
SJ1MW15	2.5	25.0	10.0-20.0	8/4/2006	5.61	4.17	1.44
				10/5/2006	5.61	4.35	1.26
				6/6/2007	5.61	4.09	1.52
				9/6/2007	5.61	3.47	2.14
				11/7/2007	5.61	3.58	2.03
				12/3/2007	5.61	3.47	2.14
				6/17/2008	5.61	5.47	0.14
SJ7MW16	4.7	25.0	12.5-22.5	8/4/2006	7.19	5.81	1.38
				10/5/2006	7.19	5.49	1.70
				6/6/2007	7.19	5.16	2.03
				9/6/2007	7.19	5.23	1.96
				11/7/2007	7.19	5.88	1.31
				12/3/2007	7.19	6.51	0.68
				6/17/2008	7.19	5.68	1.51

TABLE 22 - WATER LEVEL MEASUREMENTS

Well ID	Ground Surface Elevation (ft AMSL ²)	Total Boring Depth (ft BGS ³)	Screened Interval (ft BGS ³)	Date	TOC ¹ Elevation (ft AMSL ²)	Depth to Water (ft BTOC ⁴)	Water Elevation (ft AMSL ²)
SL8MW17	2.9	33.0	15.0-25.0	8/4/2006	5.87	4.51	1.36
				10/5/2006	5.87	4.21	1.66
				6/6/2007	5.87	3.93	1.94
				9/6/2007	5.87	4.07	1.80
				11/7/2007	5.87	4.43	1.44
				12/3/2007	5.87	4.81	1.06
				6/17/2008	5.87	4.51	1.36
NB4MW18	2.5	20.0	7.5-17.5	6/6/2007	4.96	16.32	-11.36
				9/6/2007	4.96	3.17	1.79
				11/7/2007	4.96	4.19	0.77
				12/3/2007	4.96	3.68	1.28
				6/17/2008	4.96	5.89	-0.93
NG3MW19	2.2	17.0	4.0-13.5	6/6/2007	5.08	3.58	1.50
				9/6/2007	5.08	3.29	1.79
				11/7/2007	5.08	3.77	1.31
				12/3/2007	5.08	3.29	1.79
				6/17/2008	5.08	4.38	0.70
OMW20	1.6	17.5	6.0-15.5	6/6/2007	4.88	4.16	0.72
				9/6/2007	4.88	3.76	1.12
				11/7/2007	4.88	3.01	1.87
				12/3/2007	4.88	2.84	2.04
				6/17/2008	4.88	4.16	0.72
OMW21	2.4	20.0	8.0-18.0	6/6/2007	5.73	4.17	1.56
				9/6/2007	5.73	3.96	1.77
				11/7/2007	5.73	5.07	0.66
				12/3/2007	5.73	4.86	0.87
				6/17/2008	5.73	6.12	-0.39
SA4MW22	5.5	15.0	4.5-14.5	6/6/2007	7.79	6.27	1.52
				9/6/2007	7.79	6.34	1.45
				11/7/2007	7.79	6.57	1.22
				12/3/2007	7.79	6.72	1.07
				6/17/2008	7.79	6.86	0.93
ND4MW24B	3.5	34.0	21.5-26.5	6/6/2007	5.70	3.81	1.89
				9/6/2007	5.70	3.41	2.29
				11/7/2007	5.70	3.78	1.92
				12/3/2007	5.70	3.32	2.38
				6/17/2008	5.70	5.48	0.22
				7/30/2008	5.70	4.22	1.48
NG3MW25B	2.2	35.0	17.0-27.0	6/6/2007	4.91	3.17	1.74
				9/6/2007	4.91	3.01	1.90
				11/7/2007	4.91	3.15	1.76
				12/3/2007	4.91	2.94	1.97
				6/17/2008	4.91	3.69	1.22
				7/30/2008	4.91	3.26	1.65
OMW27B	2.8	30.0	24.5-27	6/6/2007	5.45	3.26	2.19
				9/6/2007	5.45	3.04	2.41
				11/7/2007	5.45	4.34	1.11
				12/3/2007	5.45	4.17	1.28
				6/17/2008	5.45	5.47	-0.02
				7/30/2008	5.45	4.27	1.18
NC2MW28	1.8	15.0	5-14.5	6/6/2007	4.76	2.83	1.93
				9/6/2007	4.76	2.42	2.34
				11/7/2007	4.76	2.86	1.90
				12/3/2007	4.76	2.51	2.25
				6/17/2008	4.76	4.27	0.49

TABLE 22 - WATER LEVEL MEASUREMENTS

Well ID	Ground Surface Elevation (ft AMSL ²)	Total Boring Depth (ft BGS ³)	Screened Interval (ft BGS ³)	Date	TOC ¹ Elevation (ft AMSL ²)	Depth to Water (ft BTOC ⁴)	Water Elevation (ft AMSL ²)
ND3MW29	2.9	17.5	7.0-17.0	6/6/2007	5.33	3.91	1.42
				9/6/2007	5.33	3.58	1.75
				11/7/2007	5.33	4.38	0.95
				12/3/2007	5.33	3.27	2.06
				6/17/2008	5.33	5.63	-0.30
NE3MW30B	3.5	35.5	25.0-35.0	12/3/2007	6.70	4.78	1.92
				6/17/2008	6.70	NM	NM
				7/30/2008	6.70	5.08	1.62
NE4MW31B	3.0	45.0	18.0-28.0	6/17/2008	6.01	5.04	0.97
				7/30/2008	6.01	4.59	1.42
NE4MW32C	3.2	80.0	64.0-74.0	6/17/2008	6.31	8.62	-2.31
				7/30/2008	6.31	7.29	-0.98
				9/29/2008	6.31	7.48	-1.17
				1/13/2009	6.31	7.22	-0.91
NG3CPT1	5.8	73.0	63.0-73.0	6/9/2008	5.79	9.82	-4.03
				6/17/2008	5.79	9.47	-3.68
				7/30/2008	5.79	9.41	-3.62
				9/29/2008	5.79	6.09	-0.30
				1/13/2009	5.79	6.93	-1.14
NE4CPT2	6.8	73.0	63.0-73.0	6/9/2008	6.77	9.99	-3.22
				6/17/2008	6.77	10.32	-3.55
				7/30/2008	6.77	10.31	-3.54
				9/29/2008	6.77	9.88	-3.11
				1/13/2009	6.77	9.86	-3.09
NC2CPT3	5.4	69.0	59.0-69.0	6/9/2008	5.36	11.39	-6.03
				6/17/2008	5.36	11.48	-6.12
				7/30/2008	5.36	11.30	-5.94
				9/29/2008	5.36	11.29	-5.93
				1/13/2009	5.36	8.72	-3.36
OCPT4	6.4	73.0	63.0-73.0	6/9/2008	6.38	12.25	-5.87
				6/17/2008	6.38	12.46	-6.08
				7/30/2008	6.38	12.93	-6.55
				9/29/2008	6.38	12.97	-6.59
				1/13/2009	6.38	13.16	-6.78
OCPT5	1.5	80.0	59-64,69-74	1/13/2009	5.32	12.72	-7.40
MW-1	4.9	20.0	Not Available	8/4/2006	6.75	4.12	2.63
				10/5/2006	6.75	4.38	2.37
				6/6/2007	6.75	4.17	2.58
				9/6/2007	6.75	4.21	2.54
				11/7/2007	6.75	NM	NM
				12/3/2007	6.75	NM	NM
				6/17/2008	6.75	5.39	1.36
				8/4/2006	5.88	4.79	1.09
MW-2	4.5	15.0	Not Available	10/5/2006	5.88	3.85	2.03
				6/6/2007	5.88	3.58	2.30
				9/6/2007	5.88	3.64	2.24
				11/7/2007	5.88	NM	NM
				12/3/2007	5.88	NM	NM
				6/17/2008	5.88	5.23	0.65
				8/4/2006	7.23	5.74	1.49
				10/5/2006	7.23	5.58	1.65
MW-3	4.5	16.0	Not Available	6/6/2007	7.23	5.34	1.89
				9/6/2007	7.23	5.41	1.82
				11/7/2007	7.23	NM	NM
				12/3/2007	7.23	NM	NM
				6/17/2008	7.23	6.34	0.89
				8/4/2006	5.15	2.54	2.61
				10/5/2006	5.15	2.64	2.51
Hmw-1	3.3	18.0	8.0-18.0	6/6/2007	5.15	2.89	2.26
				9/6/2007	5.15	2.61	2.54
				11/7/2007	5.15	NM	NM
				12/3/2007	5.15	NM	NM

TABLE 22 - WATER LEVEL MEASUREMENTS

Well ID	Ground Surface Elevation (ft AMSL ²)	Total Boring Depth (ft BGS ³)	Screened Interval (ft BGS ³)	Date	TOC ¹ Elevation (ft AMSL ²)	Depth to Water (ft BTOC ⁴)	Water Elevation (ft AMSL ²)
HMW-2	2.6	18.0	8.0-18.0	8/4/2006	4.69	3.59	1.10
				10/5/2006	4.69	3.71	0.98
				6/6/2007	4.69	3.93	0.76
				9/6/2007	4.69	3.63	1.06
				11/7/2007	4.69	NM	NM
				12/3/2007	4.69	NM	NM
HMW-3	3.2	18.0	8.0-18.0	8/4/2006	5.20	3.48	1.72
				10/5/2006	5.20	3.49	1.71
				6/6/2007	5.20	3.78	1.42
				9/6/2007	5.20	3.54	1.66
				11/7/2007	5.20	NM	NM
				12/3/2007	5.20	NM	NM
BM-1	Not applicable - Staff Gauge	Not applicable - Staff Gauge	Not applicable - Staff Gauge	10/5/2006	3.53	1.94	1.59
				9/6/2007	3.53	1.55	1.98
				11/7/2007	3.53	1.61	1.92
				12/3/2007	3.53	1.49	2.04
				6/17/2008	3.53	0.73 ⁶	2.80 ⁶
				7/30/2008	3.53	0.51 ⁶	3.02 ⁶
BM-2	Not applicable - Staff Gauge	Not applicable - Staff Gauge	Not applicable - Staff Gauge	10/5/2006	3.30	1.76	1.54
				9/6/2007	3.30	1.35	1.95
				11/7/2007	3.30	1.42	1.88
				12/3/2007	3.30	1.29	2.01
				6/17/2008	3.30	1.42	1.88
				7/30/2008	3.30	1.45	1.85
BM-3	Not applicable - Staff Gauge	Not applicable - Staff Gauge	Not applicable - Staff Gauge	10/5/2006	5.10	3.41	1.69
				9/6/2007	5.10	3.60	1.50
				11/7/2007	5.10	NM	NM
				12/3/2007	5.10	4.60	0.50
				6/17/2008	5.10	3.61	1.49

Notes:

¹ TOC = Top of PVC Well Casing.

² AMSL = Above Mean Sea Level (NGVD 29).

³ BGS = Below Ground Surface

⁴ BTOC = Below TOC.

⁵ NM = not measured.

⁶ Settlement/damage to BM-1 staff gauge occurred after 12/07.

TABLE 23 - GROUNDWATER EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

	Potential Preliminary Screening Values (PSVs) from Table 18 of RI/FS Work Plan ⁽²⁾			
Chemicals of Interest	^{GW} GW _{Class 3} ⁽³⁾	^{Air} GW _{Inh-V} ⁽⁴⁾	TCEQ Ecological Benchmark for Water ⁽⁵⁾	Extent Evaluation Comparison Value
METALS				
Aluminum	7.3E+03	---	---	7.3E+03
Antimony	6.0E-01	---	---	6.0E-01
Arsenic	1.0E+00	---	7.8E-02	7.8E-02
Barium	2.0E+02	---	2.5E+01	2.5E+01
Beryllium	4.0E-01	---	---	4.0E-01
Boron	1.5E+03	---	---	1.5E+03
Cadmium	5.0E-01	---	1.0E-02	1.0E-02
Chromium	1.0E+01	---	1.0E-01	1.0E-01
Chromium (VI)	1.0E+01	---	5.0E-02	5.0E-02
Cobalt	4.4E+02	---	---	4.4E+02
Copper	1.3E+02	---	3.6E-03	3.6E-03
Ferric Iron	---	---	---	NV
Iron	---	---	---	NV
Lead	1.5E+00	---	5.3E-03	5.3E-03
Lithium	1.5E+02	---	---	1.5E+02
Manganese	1.0E+03	---	---	1.0E+03
Mercury	2.0E-01	1.3E+00	1.1E-03	1.1E-03
Molybdenum	3.7E+01	---	---	3.7E+01
Nickel	1.5E+02	---	1.3E-02	1.3E-02
Selenium	5.0E+00	---	1.4E-01	1.4E-01
Silver	3.7E+01	---	1.9E-04	1.9E-04
Strontium	4.4E+03	---	---	4.4E+03
Thallium	2.0E-01	---	2.1E-02	2.1E-02
Tin	4.4E+03	---	---	4.4E+03
Titanium	3.7E+06	---	---	3.7E+06
Vanadium	5.1E+01	---	---	5.1E+01
Zinc	2.2E+03	---	8.4E-02	8.4E-02
PESTICIDES				
4,4'-DDD	8.5E-01	---	2.5E-05	2.5E-05
4,4'-DDE	6.0E-01	---	1.4E-04	1.4E-04
4,4'-DDT	6.0E-01	1.4E+02	1.0E-06	1.0E-06
Aldrin	1.2E-02	9.6E-01	1.3E-04	1.3E-04
alpha-BHC	3.2E-02	3.3E+01	2.5E-02	2.5E-02
alpha-Chlordane	5.8E-01	3.3E+01	---	5.8E-01
beta-BHC	1.1E-01	2.5E+02	---	1.1E-01
delta-BHC	1.1E-01	7.9E+01	---	1.1E-01
Dieldrin	1.3E-02	2.8E+01	2.0E-06	2.0E-06
Endosulfan I	1.5E+01	1.6E+02	9.0E-06	9.0E-06
Endosulfan II	4.4E+01	---	9.0E-06	9.0E-06
Endosulfan sulfate	4.4E+01	---	9.0E-06	9.0E-06
Endrin	2.0E-01	5.9E+02	2.0E-06	2.0E-06
Endrin aldehyde	2.2E+00	---	---	2.2E+00
Endrin ketone	2.2E+00	5.1E+02	---	2.2E+00
gamma-BHC (Lindane)	2.0E-02	1.5E+03	1.6E-05	1.6E-05
gamma-Chlordane	5.8E-01	3.3E+01	---	5.8E-01
Heptachlor	4.0E-02	1.4E+00	4.0E-06	4.0E-06
Heptachlor epoxide	2.0E-02	2.6E+01	3.6E-06	3.6E-06
Methoxychlor	4.0E+00	6.3E+03	3.0E-05	3.0E-05
Toxaphene	3.0E-01	3.9E+02	2.0E-07	2.0E-07

TABLE 23 - GROUNDWATER EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 18 of RI/FS Work Plan ⁽²⁾			Extent Evaluation Comparison Value
	GW _{Class 3} ⁽³⁾	Air _{GW_{Inh-V}} ⁽⁴⁾	TCEQ Ecological Benchmark for Water ⁽⁵⁾	
PCBs	5.0E-02	6.4E-01	3.0E-05	3.0E-05
Aroclor-1016	---	---	---	NV
Aroclor-1221	---	---	---	NV
Aroclor-1232	---	---	---	NV
Aroclor-1242	---	---	---	NV
Aroclor-1248	---	---	---	NV
Aroclor-1254	---	---	---	NV
Aroclor-1260	---	---	---	NV
VOCs				
1,1,1,2-Tetrachloroethane	7.9E+00	2.4E+01	---	7.9E+00
1,1,1-Trichloroethane	2.0E+01	7.2E+03	1.6E+00	1.6E+00
1,1,2,2-Tetrachloroethane	1.0E+00	9.6E+00	4.5E-01	4.5E-01
1,1,2-Trichloroethane	5.0E-01	1.7E+01	2.8E-01	2.8E-01
1,1-Dichloroethane	1.5E+03	1.3E+03	---	1.3E+03
1,1-Dichloroethene	7.0E-01	3.0E+02	1.3E+01	7.0E-01
1,1-Dichloropropene	2.0E+00	4.2E+00	---	2.0E+00
1,2,3-Trichloropropane	2.9E-02	1.2E+03	---	2.9E-02
1,2,4-Trichlorobenzene	7.0E+00	2.8E+03	2.2E-02	2.2E-02
1,2,4-Trimethylbenzene	3.7E+02	3.4E+01	2.2E-01	2.2E-01
1,2-Dibromo-3-chloropropane	2.0E-02	5.7E+00	---	2.0E-02
1,2-Dibromoethane	5.0E-03	1.2E+00	---	5.0E-03
1,2-Dichlorobenzene	6.0E+01	2.1E+02	9.9E-02	9.9E-02
1,2-Dichloroethane	5.0E-01	7.2E+00	5.7E+00	5.0E-01
1,2-Dichloroethene(Total)	---	---	6.8E-01	6.8E-01
1,2-Dichloropropane	5.0E-01	2.1E+01	2.4E+00	5.0E-01
1,3,5-Trimethylbenzene	3.7E+02	2.3E+01	---	2.3E+01
1,3-Dichlorobenzene	2.2E+02	3.4E+01	1.4E-01	1.4E-01
1,3-Dichloropropane	2.0E+00	5.5E+01	---	2.0E+00
1,4-Dichlorobenzene	7.5E+00	4.7E+03	9.9E-02	9.9E-02
2,2-Dichloropropane	3.0E+00	1.0E+01	---	3.0E+00
2-Butanone	4.4E+03	4.9E+05	---	4.4E+03
2-Chloroethylvinyl ether	1.9E-01	3.5E+00	---	1.9E-01
2-Chlorotoluene	1.5E+02	1.4E+03	---	1.5E+02
2-Hexanone	4.4E+02	2.8E+02	---	2.8E+02
4-Chlorotoluene	5.1E+02	1.4E+00	---	1.4E+00
4-Isopropyltoluene	7.3E+02	8.3E+02	---	7.3E+02
4-Methyl-2-pentanone	5.8E+02	1.2E+05	6.2E+01	6.2E+01
Acetone	6.6E+03	4.6E+04	2.8E+02	2.8E+02
Acrolein	3.7E+00	1.3E+01	1.0E-02	1.0E-02
Acrylonitrile	3.8E-01	1.3E+01	2.9E-01	2.9E-01
Benzene	5.0E-01	3.9E+01	1.1E-01	1.1E-01

TABLE 23 - GROUNDWATER EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 18 of RI/FS Work Plan ⁽²⁾			Extent Evaluation Comparison Value
	GW _{Class 3} ⁽³⁾	Air _{GW_{Inh-V}} ⁽⁴⁾	TCEQ Ecological Benchmark for Water ⁽⁵⁾	
Bromobenzene	1.5E+02	6.8E+01	---	6.8E+01
Bromodichloromethane	3.3E+00	---	---	3.3E+00
Bromoform	2.6E+01	1.1E+03	1.2E+00	1.2E+00
Bromomethane	1.0E+01	8.3E+00	1.2E+00	1.2E+00
Butanol	7.3E+02	3.6E+04	---	7.3E+02
Carbon disulfide	7.3E+02	8.8E+02	---	7.3E+02
Carbon tetrachloride	5.0E-01	1.7E+00	1.5E+00	5.0E-01
Chlorobenzene	1.0E+01	2.1E+02	1.1E-01	1.1E-01
Chloroethane	2.9E+03	2.1E+04	---	2.9E+03
Chloroform	7.3E+01	4.3E+00	4.1E+00	4.1E+00
Chloromethane	1.6E+01	7.9E+00	1.4E+01	7.9E+00
cis-1,2-Dichloroethene	7.0E+00	2.9E+03	---	7.0E+00
cis-1,3-Dichloropropene	3.8E-01	4.2E+01	---	3.8E-01
Dibromochloromethane	2.4E+00	---	---	2.4E+00
Dibromomethane	2.7E+01	1.4E+02	---	2.7E+01
Dichlorodifluoromethane	1.5E+03	1.3E+02	---	1.3E+02
Ethylbenzene	7.0E+01	2.8E+03	2.5E-01	2.5E-01
Hexachlorobutadiene	2.6E+00	1.9E+00	3.2E-04	3.2E-04
Isopropylbenzene (Cumene)	7.3E+02	8.0E+02	---	7.3E+02
Methyl acetate	7.3E+03	2.4E+04	---	7.3E+03
Methyl iodide	1.0E+01	3.1E+01	---	1.0E+01
Methylcyclohexane	3.7E+04	2.6E+02	---	2.6E+02
Methylene chloride	5.0E-01	2.8E+02	5.4E+00	5.0E-01
Naphthalene	1.5E+02	5.7E+01	1.3E-01	1.3E-01
n-Butylbenzene	2.9E+02	6.6E+02	---	2.9E+02
n-Propylbenzene	2.9E+02	1.1E+03	---	2.9E+02
o-Xylene	1.0E+03	2.2E+04	---	1.0E+03
sec-Butylbenzene	2.9E+02	7.0E+02	---	2.9E+02
Styrene	1.0E+01	5.8E+03	4.6E-01	4.6E-01
tert-Butyl methyl ether (MTBE)	7.3E+01	8.8E+02	---	7.3E+01
tert-Butylbenzene	2.9E+02	4.5E+02	---	2.9E+02
Tetrachloroethene	5.0E-01	7.1E+01	1.5E+00	5.0E-01
Toluene	1.0E+02	1.4E+04	4.8E-01	4.8E-01
trans-1,2-Dichloroethene	1.0E+01	1.4E+02	---	1.0E+01
trans-1,3-Dichloropropene	2.0E+00	4.1E+01	---	2.0E+00
trans-1,4-Dichloro-2-butene	---	2.3E-01	---	2.3E-01
Trichloroethene	5.0E-01	3.5E+01	9.7E-01	5.0E-01
Trichlorofluoromethane	2.2E+03	7.4E+02	---	7.4E+02
Trichlorotrifluoroethane	2.2E+05	1.7E+03	---	1.7E+03
Vinyl acetate	7.3E+03	2.6E+03	---	2.6E+03
Vinyl chloride	2.0E-01	7.9E-01	---	2.0E-01
Xylene (total)	1.0E+03	3.0E+02	8.5E-01	8.5E-01

TABLE 23 - GROUNDWATER EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

	Potential Preliminary Screening Values (PSVs) from Table 18 of RI/FS Work Plan ⁽²⁾			
Chemicals of Interest	^{GW} GW _{Class 3} ⁽³⁾	^{Air} GW _{Inh-V} ⁽⁴⁾	TCEQ Ecological Benchmark for Water ⁽⁵⁾	Extent Evaluation Comparison Value
SVOCs				
1,2Diphenylhydrazine/Azobenzen	1.9E+00	1.5E+02	---	1.9E+00
2,4,5-Trichlorophenol	7.3E+02	8.2E+04	1.2E-02	1.2E-02
2,4,6-Trichlorophenol	7.3E+00	1.1E+04	6.1E-02	6.1E-02
2,4-Dichlorophenol	2.2E+01	9.8E+04	---	2.2E+01
2,4-Dimethylphenol	1.5E+02	3.0E+04	---	1.5E+02
2,4-Dinitrophenol	1.5E+01	---	1.3E+00	1.3E+00
2,4-Dinitrotoluene	3.0E-01	2.2E+02	---	3.0E-01
2,6-Dinitrotoluene	3.0E-01	5.7E+02	---	3.0E-01
2-Chloronaphthalene	5.8E+02	---	---	5.8E+02
2-Chlorophenol	3.7E+01	1.1E+04	2.7E-01	2.7E-01
2-Methylnaphthalene	2.9E+01	---	3.0E-02	3.0E-02
2-Nitroaniline	2.2E+00	7.2E+02	---	2.2E+00
2-Nitrophenol	1.5E+01	1.2E+04	1.5E+00	1.5E+00
3,3'-Dichlorobenzidine	4.5E-01	---	3.7E-02	3.7E-02
3-Nitroaniline	2.2E+00	1.3E+04	---	2.2E+00
4,6-Dinitro-2-methylphenol	7.3E-01	1.5E+03	---	7.3E-01
4-Bromophenyl phenyl ether	1.4E-02	3.4E-01	---	1.4E-02
4-Chloro-3-methylphenol	3.7E+01	1.1E+05	---	3.7E+01
4-Chloroaniline	2.9E+01	1.2E+04	---	2.9E+01
4-Chlorophenyl phenyl ether	1.4E-02	2.7E-01	---	1.4E-02
4-Nitroaniline	5.4E+00	1.3E+04	---	5.4E+00
4-Nitrophenol	1.5E+01	4.3E+03	3.6E-01	3.6E-01
Acenaphthene	4.4E+02	---	4.0E-02	4.0E-02
Acenaphthylene	4.4E+02	---	---	4.4E+02
Acetophenone	7.3E+02	2.5E+04	---	7.3E+02
Aniline	3.6E+01	2.0E+03	---	3.6E+01
Anthracene	2.2E+03	---	1.8E-04	1.8E-04
Atrazine (Aatrex)	3.0E-01	3.3E+04	---	3.0E-01
Benzaldehyde	7.3E+02	9.4E+02	---	7.3E+02
Benzidine	8.9E-04	1.4E+00	---	8.9E-04
Benzo(a)anthracene	2.8E-01	4.4E+02	---	2.8E-01
Benzo(a)pyrene	2.0E-02	8.4E+01	---	2.0E-02
Benzo(b)fluoranthene	2.8E-01	3.5E+02	---	2.8E-01
Benzo(g,h,i)perylene	2.2E+02	---	---	2.2E+02
Benzo(k)fluoranthene	2.8E+00	2.1E+04	---	2.8E+00
Benzoic acid	2.9E+04	1.9E+04	---	1.9E+04
Benzyl alcohol	3.7E+03	1.7E+05	---	3.7E+03
Biphenyl	3.7E+02	3.7E+01	---	3.7E+01

TABLE 23 - GROUNDWATER EXTENT EVALUATION COMPARISON VALUES⁽¹⁾

Chemicals of Interest	Potential Preliminary Screening Values (PSVs) from Table 18 of RI/FS Work Plan ⁽²⁾			Extent Evaluation Comparison Value
	^{GW} GW _{Class 3} ⁽³⁾	^{Air} GW _{Inh-V} ⁽⁴⁾	TCEQ Ecological Benchmark for Water ⁽⁵⁾	
Bis(2-Chloroethoxy)methane	1.9E-01	1.7E+01	---	1.9E-01
Bis(2-Chloroethyl)ether	1.9E-01	2.0E+01	---	1.9E-01
Bis(2-Chloroisopropyl)ether	2.9E+00	1.9E+02	---	2.9E+00
Bis(2-Ethylhexyl)phthalate	6.0E-01	---	---	6.0E-01
Butyl benzyl phthalate	1.5E+03	2.2E+04	1.5E-01	1.5E-01
Caprolactam	3.7E+03	4.4E+03	---	3.7E+03
Carbazole	1.0E+01	---	---	1.0E+01
Chrysene	2.8E+01	1.3E+05	---	2.8E+01
Dibenz(a,h)anthracene	2.8E-02	2.3E+02	---	2.8E-02
Dibenzofuran	2.9E+01	---	6.5E-02	6.5E-02
Diethyl phthalate	5.8E+03	2.5E+04	4.4E-01	4.4E-01
Dimethyl phthalate	5.8E+03	1.9E+04	5.8E-01	5.8E-01
Di-n-butyl phthalate	7.3E+02	1.3E+04	5.0E-03	5.0E-03
Di-n-octyl phthalate	1.5E+02	1.8E+03	---	1.5E+02
Fluoranthene	2.9E+02	---	3.0E-03	3.0E-03
Fluorene	2.9E+02	---	5.0E-02	5.0E-02
Hexachlorobenzene	1.0E-01	1.2E+00	---	1.0E-01
Hexachlorocyclopentadiene	5.0E+00	9.8E-01	7.0E-05	7.0E-05
Hexachloroethane	7.3E+00	3.1E+02	9.4E-03	9.4E-03
Indeno(1,2,3-cd)pyrene	2.8E-01	2.0E+03	---	2.8E-01
Isophorone	2.2E+02	1.9E+04	6.5E-01	6.5E-01
Nitrobenzene	3.7E+00	1.1E+03	6.7E-02	6.7E-02
n-Nitrosodimethylamine	4.0E-03	4.4E+00	1.7E+02	4.0E-03
n-Nitrosodi-n-propylamine	2.9E-02	---	1.2E-01	2.9E-02
n-Nitrosodiphenylamine	4.2E+01	---	1.7E+02	4.2E+01
o-Cresol	3.7E+02	1.8E+04	5.1E-01	5.1E-01
Pentachlorophenol	1.0E-01	2.4E+03	9.6E-03	9.6E-03
Phenanthrene	2.2E+02	---	4.6E-03	4.6E-03
Phenol	2.2E+03	5.0E+04	2.8E+00	2.8E+00
Pyrene	2.2E+02	---	2.4E-04	2.4E-04
Pyridine	7.3E+00	4.0E+01	---	7.3E+00
Sulfate	---	---	---	NV
Chloride	---	---	---	NV
Total Dissolved Solids(TDS)	---	---	---	NV
Total Suspended Solids	---	---	---	NV
Total Organic Carbon	---	---	---	NV
Hardness	---	---	---	NV

Notes:

1. All values in mg/L.
2. Values from Table 18 of RI/FS Work Plan (updated to reflect changes from 2005 where applicable).
3. ^{GW}GW_{Class 3} PCL = TCEQ Protective Concentration Level for Class 3 groundwater, commercial/industrial land use. April 2008.
4. ^{Air}GW_{Inh-V} PCL = TCEQ Protective Concentration Level for inhalation of constituents in groundwater, 30 acre source area, commercial/industrial land use. April 2008.
5. From Table 3-2 (Ecological Benchmarks for Water) of TCEQ "Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas." Metals benchmarks are for dissolved concentrations, except for barium, mercury, selenium, and thallium.
6. NV = No Preliminary Screening Value.

**TABLE 24 - DETECTED ZONE A GROUNDWATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/L)
NB4PZ01	8/3/2006	Chromium	0.14J	0.1
		Endosulfan II	0.000021J	0.000009
		Nickel	0.14J	0.013
		Silver	0.0088J	0.00019
NC3PZ02	8/2/2006	Chromium	0.16	0.1
		Silver	0.017J	0.00019
ND1PZ03	8/1-2/2006	Benzene	0.657	0.11
		Endosulfan II	0.0000103J	0.000009
		Silver	0.0099J	0.00019
		Vinyl chloride	1.22	0.2
ND2MW01	8/3/2006	1,1,1-Trichloroethane	15.4	1.6
		1,1-Dichloroethene	23.5	0.7
		1,2,3-Trichloropropane	25.5J-	0.029
		1,2-Dichloroethane	58.8	0.5
		1,2-Dichloropropane	3.45J	0.5
		4,4'-DDE	0.00027	0.00014
		Benzene	5.39J	0.11
		Chromium	0.15J	0.1
		cis-1,2-Dichloroethene	13.4	7
		Dieldrin	0.0000264J	0.000002
		gamma-BHC (Lindane)	0.00016J	0.000016
		Methylene chloride	300	0.5
		Silver	0.012J	0.00019
		Tetrachloroethene	20.5	0.5
		Trichloroethene	84	0.5
	11/8/2007	1,1-Dichloroethene	2.92	0.7
		1,2-Dichloroethene(Total)	19.2	0.68
		Benzene	0.518J	0.11
		cis-1,2-Dichloroethene	19.2	7
		Vinyl chloride	0.331J	0.2
	6/18/2008	1,1-Dichloroethene	2.35	0.7
		1,2,3-Trichloropropane	0.374J	0.029
		1,2-Dichloroethane	1.25	0.5
		1,2-Dichloroethene(Total)	12.5	0.68
		Benzene	0.375J	0.11
		cis-1,2-Dichloroethene	12.5	7
		Methylene chloride	2.88	0.5
		Vinyl chloride	0.978J	0.2

**TABLE 24 - DETECTED ZONE A GROUNDWATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/L)
ND3MW02	8/3/2006	1,1,1-Trichloroethane	2.25	1.6
		1,2,3-Trichloropropane	0.497J-	0.029
		Anthracene	0.000832J	0.00018
		Chromium	0.15J	0.1
		gamma-BHC (Lindane)	0.00019J	0.000016
		Silver	0.0063J	0.00019
		Tetrachloroethene	1.92	0.5
		Trichloroethene	6.04	0.5
	11/8/2007	1,1,1-Trichloroethane	14	1.6
		1,2,3-Trichloropropane	1.57	0.029
		1,2-Dichloroethene(Total)	9.37	0.68
		Benzene	0.158J	0.11
		cis-1,2-Dichloroethene	9.37	7
		Tetrachloroethene	2.1	0.5
		Trichloroethene	17.7	0.5
	6/18/2008	1,1,1-Trichloroethane	42	1.6
		1,1-Dichloroethene	0.975J	0.7
		1,2,3-Trichloropropane	3.86J	0.029
		1,2-Dichloroethene(Total)	13.6	0.68
		cis-1,2-Dichloroethene	13.6	7
		Tetrachloroethene	34.8	0.5
		Toluene	0.691J	0.48
		Trichloroethene	76	0.5
ND3MW29	6/5/2007	1,1,1-Trichloroethane	156	1.6
		1,2,3-Trichloropropane	44.3J	0.029
		1,2-Dichloroethane	328	0.5
		Endosulfan II	0.00012J	0.000009
		gamma-BHC (Lindane)	0.00153	0.000016
		Methylene chloride	1230	0.5
		Trichloroethene	61.2J	0.5
	11/8/2007	1,1,1-Trichloroethane	195	1.6
		1,1-Dichloroethene	22J	0.7
		1,2,3-Trichloropropane	53.1J	0.029
		1,2-Dichloroethane	292	0.5
		Methylene chloride	1100	0.5
		Trichloroethene	69.4J	0.5
	6/18/2008	1,1,1-Trichloroethane	234	1.6
		1,1-Dichloroethene	21.3J	0.7
		1,2,3-Trichloropropane	44.4J	0.029
		1,2-Dichloroethane	347	0.5
		1,2-Dichloroethene(Total)	24.5J	0.68
		Benzene	5.92J	0.11
		cis-1,2-Dichloroethene	24.5J	7
		Methylene chloride	1100	0.5
		Tetrachloroethene	12.9J	0.5
		Trichloroethene	135	0.5

**TABLE 24 - DETECTED ZONE A GROUNDWATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/L)
ND3PZ04	7/31/2006	1,1,1-Trichloroethane	62.7	1.6
		1,1-Dichloroethene	29.2	0.7
		1,2,3-Trichloropropane	28.2	0.029
		1,2-Dichloropropane	3.36J	0.5
		Benzene	8.24J	0.11
		Carbon tetrachloride	7.58J	0.5
		cis-1,2-Dichloroethene	124	7
		Heptachlor epoxide	0.000025	0.0000036
		Silver	0.005J	0.00019
		Tetrachloroethene	7.86J	0.5
		Toluene	4.05J	0.48
		Trichloroethene	31.7	0.5
		Vinyl chloride	5.09J	0.2
ND4MW03	8/2/2006	Silver	0.013	0.00019
NE1MW04	8/3/2006	Chromium	0.11J	0.1
		Endosulfan II	0.0000138J	0.000009
		Silver	0.014J	0.00019
NE3MW05	8/2/2006	Anthracene	0.00138J	0.00018
		Ethylbenzene	0.74	0.25
		Naphthalene	0.322	0.13
		Phenanthrene	0.00638	0.0046
		Pyrene	0.000517J	0.00024
		Silver	0.001J	0.00019
	11/7/2007	Ethylbenzene	0.273	0.25
		Naphthalene	0.243	0.13
NF1PZ05	8/3/2006	Chromium	0.13J	0.11
		Endosulfan II	0.0000148J	0.000009
		Silver	0.0085J	0.00019
NF2MW06	8/3/2006	1,2,3-Trichloropropane	0.214	0.029
		Endosulfan sulfate	0.0000156J	0.000009
		Methylene chloride	0.944	0.5
		Silver	0.0032J	0.00019
		Trichloroethene	0.506	0.5
NF3PZ06	8/1/2006	Nickel	0.084	0.013
		Silver	0.011J	0.00019
SA4PZ07	8/3/2006	Chromium	0.14J	0.1
		Endosulfan II	0.0000309J	0.000009
		Nickel	0.022J	0.013
		Silver	0.016J	0.00019
SB4MW07	8/1/2006	Silver	0.03J	0.00019

**TABLE 24 - DETECTED ZONE A GROUNDWATER CONCENTRATIONS
EXCEEDING EXTENT EVALUATION COMPARISON VALUES**

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value ⁽¹⁾ (mg/L)
SD3PZ08	7/31/2006	Chromium	0.15	0.1
		Silver	0.012J	0.00019
SE1MW08	8/2/2006	Silver	0.011	0.00019
SE6MW09	7/31/2006	Silver	0.0024J	0.00019
SF5MW10	8/1/2006	gamma-BHC (Lindane)	0.000024J	0.000016
	6/4/2007	gamma-BHC (Lindane)	0.000042J	0.000016
SF6MW11	7/31/2006	Silver	0.0099J	0.00019
SF7MW12	7/31/2006	Silver	0.0044J	0.00019
SG2MW13	8/1/2006	Silver	0.015J	0.00019
SH7MW14	7/31/2006	Silver	0.0028J	0.00019
SJ1MW15	8/2/2006	Endosulfan sulfate	0.000104	0.000009
		Heptachlor epoxide	0.0000201J	0.0000036
		Silver	0.0088	0.00019
SJ7MW16	7/31/2006	Silver	0.0048J	0.00019
SL8MW17	8/3/2006	Silver	0.028J	0.00019

Notes:

(1) Extent Evaluation Comparison Values from Table 23.

(2) Data qualifiers: J = estimated value. J- = estimated value, biased low.

TABLE 25 - VERTICAL GRADIENT MEASUREMENTS

Well ID	Date	MP ¹ Elevation (ft AMSL ²)	Depth to Water (ft BMP ³)	Water Elevation (ft AMSL)	Vertical Gradient ⁴ - Zone A to B	Vertical Gradient ⁴ - Zone B to C
ND4MW03	6/6/2007	6.20	4.42	1.78		
	9/6/2007	6.20	3.84	2.36		
	11/7/2007	6.20	4.47	1.73		
	12/3/2007	6.20	3.73	2.47		
	6/17/2008	6.20	6.31	-0.11		
ND4MW24B	6/6/2007	5.70	3.81	1.89		
	9/6/2007	5.70	3.41	2.29		
	11/7/2007	5.70	3.78	1.92		
	12/3/2007	5.70	3.32	2.38		
	6/17/2008	5.70	5.48	0.22		
Vertical gradients for well cluster	6/6/2007				-0.03	--
	9/6/2007				0.02	--
	11/7/2007				-0.05	--
	12/3/2007				0.02	--
	6/17/2008				-0.08	--
NG3MW19	6/6/2007	5.08	3.58	1.50		
	9/6/2007	5.08	3.29	1.79		
	11/7/2007	5.08	3.77	1.31		
	12/3/2007	5.08	3.29	1.79		
	6/17/2008	5.08	4.38	0.70		
NG3MW25B	6/6/2007	4.91	3.17	1.74		
	9/6/2007	4.91	3.01	1.90		
	11/7/2007	4.91	3.15	1.76		
	12/3/2007	4.91	2.94	1.97		
	6/17/2008	4.91	3.69	1.22		
	7/30/2008	4.91	3.26	1.65		
NG3CPT1	6/9/2008	5.79	9.82	4.03		
	6/17/2008	5.79	9.47	-3.68		
	7/30/2008	5.79	9.41	-3.62		
Vertical gradients for well cluster	6/6/2007				-0.07	--
	9/6/2007				-0.03	--
	11/7/2007				-0.13	--
	12/3/2007				-0.05	--
	6/17/2008				-0.15	0.14
	7/30/2008				--	0.15

TABLE 25 - VERTICAL GRADIENT MEASUREMENTS

Well ID	Date	MP ¹ Elevation (ft AMSL ²)	Depth to Water (ft BMP ³)	Water Elevation (ft AMSL)	Vertical Gradient ⁴ - Zone A to B	Vertical Gradient ⁴ - Zone B to C
OMW21	6/6/2007	5.73	4.17	1.56		
	9/6/2007	5.73	3.96	1.77		
	11/7/2007	5.73	5.07	0.66		
	12/3/2007	5.73	4.86	0.87		
	6/17/2008	5.73	6.12	-0.39		
OMW27B	6/6/2007	5.45	3.26	2.19		
	9/6/2007	5.45	3.04	2.41		
	11/7/2007	5.45	4.34	1.11		
	12/3/2007	5.45	4.17	1.28		
	6/17/2008	5.45	5.47	-0.02		
	7/30/2008	5.45	4.27	1.18		
OCPT4	6/9/2008	6.38	12.25	5.87		
	6/17/2008	6.38	12.46	-6.08		
	7/30/2008	6.38	12.93	-6.55		
Vertical gradient for well cluster	6/6/2007				-0.10	--
	9/6/2007				-0.10	--
	11/7/2007				-0.07	--
	12/3/2007				-0.06	--
	6/17/2008				-0.06	0.17
	7/30/2008				--	0.21
NE4MW31B	6/17/2008	6.01	5.04	0.97		
	7/30/2008	6.01	4.59	1.42		
NE4CPT2	6/17/2008	6.77	10.32	-3.55		
	7/30/2008	6.77	10.31	-3.54		
Vertical gradient for well cluster	6/17/2008				--	0.13
	7/30/2008				--	0.14

Notes:

¹ MP = Measurement Point (Top of PVC well casing).

² AMSL = Above Mean Sea Level (NGVD 29).

³ BMP = Below Measurement Point.

⁴Vertical gradient calculated using vertical distance from base of screened interval in upper unit monitoring well to top of screened interval in lower unit monitoring well at well cluster location. A positive value indicates a downward gradient. A negative value indicates an upward gradient.

TABLE 26 - ZONE B GROUNDWATER CONCENTRATIONS

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value (mg/L) ¹
ND4MW24B	6/5/2007	1,1,1-Trichloroethane	<0.000155	1.6
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	<0.000151	0.029
		1,2-Dichloroethane	0.00157J	0.5
		1,2-Dichloropropane	<0.0001	0.5
		4,4'-DDE	<0.00000195	0.6
		Anthracene	<0.000102	2,200
		Benzene	<0.000184	0.5
		Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	0.00431J	7
		Dieldrin	<0.00000425	0.013
		Endosulfan II	<0.0000018	44
		Endosulfan sulfate	<0.0000016	44
		Ethylbenzene	<0.000077	70
		gamma-BHC (Lindane)	<0.00000125	0.02
		Heptachlor epoxide	<0.000002	0.02
		Methylene chloride	0.00437J	0.5
		Naphthalene	<0.000053	57
		Nickel	<0.0009	15
		Phenanthrene	<0.000137	220
		Pyrene	<0.00009	220
		Tetrachloroethene	0.000881J	0.5
		Thallium	<0.0038	0.2
		Toluene	<0.000093	100
		Trichloroethene	0.00203J	0.5
		Vinyl chloride	<0.000163	0.2
NE3MW30B	12/3/2007	1,1,1-Trichloroethane	64	1.6
		1,1-Dichloroethene	10.2J	0.7
		1,2,3-Trichloropropane	45.7	0.029
		1,2-Dichloroethane	176	0.5
		1,2-Dichloropropane	<0.499	0.5
		Anthracene	<0.000104	2,200
		Benzene	<0.921	0.5
		Carbon tetrachloride	<0.621	0.5
		cis-1,2-Dichloroethene	<0.768	7
		Ethylbenzene	<0.387	70
		Methylene chloride	738	0.5
		Naphthalene	<1.84	57
		Nickel	<0.00084	15
		Phenanthrene	0.00576	220
		Pyrene	<0.000092	220
		Tetrachloroethene	23.8J	0.5
		Thallium	<0.0038	0.2
		Toluene	<0.466	100
		Trichloroethene	170	0.5
		Vinyl chloride	<0.817	0.2

TABLE 26 - ZONE B GROUNDWATER CONCENTRATIONS

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value (mg/L) ¹
NE4MW31B	6/18/2008	1,1,1-Trichloroethane	<0.000155	1.6
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	<0.000151	0.029
		1,2-Dichloroethane	<0.000184	0.5
		Benzene	<0.000184	0.5
		Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	0.000423J	7
		Methylene chloride	0.00218J	0.5
		Tetrachloroethene	<0.000081	0.5
		Trichloroethene	<0.000123	0.5
		Vinyl chloride	<0.000163	0.2
NG3MW25B	6/6/2007	1,1,1-Trichloroethane	<0.000155	1.6
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	<0.000151	0.029
		1,2-Dichloroethane	<0.000184	0.5
		1,2-Dichloropropane	<0.0001	0.5
		4,4'-DDE	<0.00000195	0.6
		Anthracene	<0.000102	2200
		Benzene	<0.000184	0.5
		Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	<0.000154	7
		Dieldrin	<0.00000425	0.013
		Endosulfan II	<0.0000018	44
		Endosulfan sulfate	<0.0000016	44
		Ethylbenzene	<0.000077	70
		gamma-BHC (Lindane)	<0.00000125	0.02
		Heptachlor epoxide	<0.000002	0.02
		Methylene chloride	<0.000675	0.5
		Naphthalene	<0.000053	57
		Nickel	<0.0009	15
		Phenanthrene	<0.000137	220
		Pyrene	<0.00009	220
		Tetrachloroethene	<0.000081	0.5
		Thallium	<0.0038	0.2
		Toluene	<0.000093	100
		Trichloroethene	<0.000123	0.5
		Vinyl chloride	<0.000163	0.2

TABLE 26 - ZONE B GROUNDWATER CONCENTRATIONS

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value (mg/L) ¹
OMW27B	6/4/2007	1,1,1-Trichloroethane	<0.000155	1.6
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	<0.000151	0.029
		1,2-Dichloroethane	<0.000184	0.5
		1,2-Dichloropropane	<0.0001	0.5
		4,4'-DDE	<0.00000195	0.6
		Anthracene	<0.000102	2200
		Benzene	<0.000184	0.5
		Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	<0.000154	7
		Dieldrin	<0.00000425	0.013
		Endosulfan II	<0.0000018	44
		Endosulfan sulfate	<0.0000016	44
		Ethylbenzene	<0.000077	70
		gamma-BHC (Lindane)	<0.00000125	0.02
		Heptachlor epoxide	<0.000002	0.02
		Methylene chloride	<0.000774	0.5
		Naphthalene	<0.000053	57
		Nickel	<0.00045	15
		Phenanthrene	<0.000137	220
		Pyrene	<0.00009	220
		Tetrachloroethene	<0.000081	0.5
		Thallium	<0.0019	0.2
		Toluene	<0.000093	100
		Trichloroethene	<0.000123	0.5
		Vinyl chloride	<0.000163	0.2

Notes:

- (1) Extent Evaluation Comparison Values from Table 23 (human health PSVs only).
- (2) Data qualifiers: J = estimated value.
- (3) Bolded values and detection limits exceed extent evaluation comparison value.

TABLE 27 - LABORATORY VERTICAL HYDRAULIC CONDUCTIVITY TESTING RESULTS

Sample Location	Sample Depth (ft below ground surface)	Vertical Hydraulic Conductivity (cm/sec)
NE4MW32C	53-55	6.55×10^{-9}
NE4MW32C	55-57	5.66×10^{-9}
SE1DB01	80-82	1.64×10^{-8}

TABLE 28 - ZONE C GROUNDWATER CONCENTRATIONS

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value (mg/L) ¹
NE4MW32C	6/18/2008	1,1,1-Trichloroethane	0.709	20
		1,1-Dichloroethene	<0.000226	0.7
		1,2,3-Trichloropropane	0.321	0.029
		1,2-Dichloroethane	<0.000184	0.5
		Benzene	0.0459J	0.5
		Carbon tetrachloride	<0.000124	0.5
		cis-1,2-Dichloroethene	4.62	7
		Methylene chloride	<0.000104	0.5
		Tetrachloroethene	1.35	0.5
		Trichloroethene	1.89	0.5
		Vinyl chloride	<0.000163	0.2
	7/31/2008	1,1,1-Trichloroethane	0.18	20
		1,1-Dichloroethene	0.0379	0.7
		1,2,3-Trichloropropane	0.219	0.029
		1,2-Dichloroethane	<0.0018	0.5
		Benzene	0.0548	0.5
		Carbon tetrachloride	<0.00312	0.5
		cis-1,2-Dichloroethene	3.27	7
		Methylene chloride	<0.00192	0.5
		Tetrachloroethene	<0.00306	0.5
		Trichloroethene	<0.00236	0.5
		Vinyl chloride	<0.00310	0.2
	9/30/2008	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	0.00177J	0.7
		1,2,3-Trichloropropane	0.0119	0.029
		1,2-Dichloroethane	<0.00009	0.5
		Benzene	0.0012J	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	0.168	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	0.00648	0.5
		Trichloroethene	0.00639	0.5
		Vinyl chloride	<0.000155	0.2
	1/13/2009	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	0.00143J	0.7
		1,2,3-Trichloropropane	0.0042J	0.029
		1,2-Dichloroethane	<0.00009	0.5
		Benzene	0.00141J	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	0.112	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	0.0341	0.5
		Vinyl chloride	<0.000155	0.2
NG3CPT1	7/31/2008	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2

TABLE 28 - ZONE C GROUNDWATER CONCENTRATIONS

Sample Location	Sample Date	Chemical of Interest	Concentration (mg/L)	Extent Evaluation Comparison Value (mg/L) ¹
NE4CPT2	7/31/2008	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2
NC2CPT3	7/31/2008	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2
OCPT4	7/31/2008	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2
OCPT5	1/13/2009	1,1,1-Trichloroethane	<0.000096	20
		1,1-Dichloroethene	<0.000201	0.7
		1,2,3-Trichloropropane	<0.000091	0.029
		1,2-Dichloroethane	<0.000090	0.5
		Benzene	<0.000065	0.5
		Carbon tetrachloride	<0.000156	0.5
		cis-1,2-Dichloroethene	<0.000162	7
		Methylene chloride	<0.000096	0.5
		Tetrachloroethene	<0.000153	0.5
		Trichloroethene	<0.000118	0.5
		Vinyl chloride	<0.000155	0.2

Notes:

- (1) Extent Evaluation Comparison Values from Table 23 (human health PSVs only).
- (2) Data qualifiers: J = estimated value.
- (3) Bolded values exceed extent evaluation comparison value.

APPENDIX B

**INTRACOASTAL WATERWAY SEDIMENT BACKGROUND CONCENTRATION
TOLERANCE LIMIT CALCULATIONS**

APPENDIX B

INTRACOASTAL WATERWAY SEDIMENT BACKGROUND CONCENTRATION TOLERANCE LIMIT CALCULATIONS

Tolerance limits were calculated for background metals analytes using the procedure described in Gibbons, 1994. Relevant pages from Gibbons, 1994 describing this procedure are attached. A step-by-step discussion of these calculations is provided below.

Step 1 - Calculate the Background Mean and Standard Deviation

After confirming the data were normally distributed, these parameters were calculated for each background metal using EPA's *PRO UCL* statistical software package (EPA, 2007). These parameters are summarized in Table B-1.

Step 2- Calculate Tolerance Limit

Since the purpose of the tolerance limit is to identify metals concentrations that are higher than background a one-sided upper tolerance limit was calculated.

As provided in Gibbons, the tolerance limit is calculated from:

$$TL = \text{mean} + K * (\text{std. deviation})$$

Where K is a factor determined from statistical tables based on the number of samples in the background data set and the desired confidence and coverage goals. Consistent with Gibbons, 1994, a 95% confidence level with 95% coverage was used. Based on a background data set of 9 samples and these goals, and using Table 4.2 of Gibbons (attached), K was set at 3.032 for all background data sets. The resultant upper tolerance limits are listed in Table B-1.

TABLE B-1 - BACKGROUND SAMPLE STATISTICS - INTRACOASTAL WATERWAY SEDIMENT

Compound	Site-Specific Background Values (mg/kg)		
	Mean	Std. Dev.	Upper Tolerance Limit ⁽¹⁾
Aluminum	12,213	6,892	33,110
Antimony	4.02	2.83	12.6
Arsenic	5.81	3.11	15.2
Barium	210	48	354
Beryllium	0.766	0.403	1.99
Boron	27.6	12.8	66.5
Chromium	12.8	6.5	32.6
Cobalt	6.70	3.17	16.3
Copper	8.14	5.2	23.8
Lead	9.58	3.6	20.5
Lithium	21.4	14.4	65.1
Manganese	331	89	601
Mercury	0.018	0.013	0.0576
Molybdenum	0.24	0.07	0.446
Nickel	14.91	8.11	39.5
Strontium	59.2	22.1	126
Titanium	31.8	10.5	63.6
Vanadium	20.2	9.1	47.9
Zinc ⁽³⁾	36.04	13.68	77.5

Note:

(1) One-side upper tolerance limit for 95% confidence and 95% coverage for a background data set of 9 samples.

Attachment B-1

Excerpted Pages from Gibbons, 1994

STATISTICAL METHODS FOR GROUNDWATER MONITORING

Robert D. Gibbons

University of Illinois at Chicago



A WILEY-INTERSCIENCE PUBLICATION

JOHN WILEY & SONS, INC.

New York • Chichester • Brisbane • Toronto • Singapore

allowable, the costly verification stage would not be required. This two-stage procedure is quite similar to the prediction limit approach described by Davis and McNichols (1987).

4.2 NORMAL TOLERANCE LIMITS

Assume that we have available estimates \bar{x} and s of the mean and standard deviation based on n background observations with degrees of freedom $f = n - 1$ from a normal distribution. We require the factor K from the two-sided interval

$$\bar{x} \pm Ks \quad (4.1)$$

which leads to the statement, "At least a proportion P of the normal population is between $\bar{x} - Ks$ and $\bar{x} + Ks$ with confidence $1 - \alpha$." Wald and Wolfowitz (1946) showed that K can be approximated by

$$K \sim ru \quad (4.2)$$

where r is a function of n and P and is determined from the normal distribution

$$\frac{1}{\sqrt{2\pi}} \int_{(1/\sqrt{n})-r}^{(1/\sqrt{n})+r} \exp\left(-\frac{x^2}{2}\right) dx = P \quad (4.3)$$

and u is a function of f and α and is defined as the $(1 - \alpha)100\%$ of the chi-square distribution as

$$u = \sqrt{\frac{f}{\chi_{\alpha, f}^2}} \quad (4.4)$$

By selecting a coverage probability P , (4.3) may be solved for r (since n is known), and by selecting a confidence level P , (4.4) may be solved for u (since $f = n - 1$ is known). Two-sided values of K are provided in Table 4.1 for $n = 4$ to ∞ , 95% confidence and 95% and 99% coverage.

For one-sided tolerance limits $\bar{x} + Ks$, we require the factor K which leads to the statement, "At least a proportion P of the normal population is less than $\bar{x} + Ks$ with confidence $1 - \alpha$." Owen (1962) determines K by

$$\Pr\{(\text{noncentral } t \text{ with } \delta = z\sqrt{n}) \leq K\sqrt{n}\} = 1 - \alpha \quad (4.5)$$

where δ is the noncentrality parameter of the noncentral t -distribution with

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95% confide
tion monitor

(4.6)

To illustrate the differences between tolerance and prediction limits, Figure 4.1 displays power curves for a 95% confidence normal prediction

TABLE 4.2 Factors (K) for Constructing One-Sided Normal Tolerance Limits ($\bar{x} + Ks$) for 95% Confidence and 95% and 99% Coverage

n	95% Coverage	99% Coverage
4	5.144	7.042
5	4.210	5.749
6	3.711	5.065
7	3.401	4.643
8	3.188	4.355
9	3.032	4.144
10	2.911	3.981
11	2.815	3.852
12	2.736	3.747
13	2.670	3.659
14	2.614	3.585
15	2.566	3.520
16	2.523	3.463
17	2.486	3.414
18	2.453	3.370
19	2.423	3.331
20	2.396	3.295
21	2.371	3.262
22	2.350	3.233
23	2.329	3.206
24	2.309	3.181
25	2.292	3.158
30	2.220	3.064
35	2.166	2.994
40	2.126	2.941
50	2.065	2.863
60	2.022	2.807
80	1.965	2.733
100	1.927	2.684
500	1.763	2.475
∞	1.645	2.326

limit for the next $k = 100$ measurements based on a previous sample of $n = 20$, and a corresponding 95% confidence 95% coverage normal tolerance limit and 95% confidence 99% coverage normal tolerance limit. Inspection of Figure 4.1 reveals that the probability of failing at least one of the 100 comparisons by chance alone is much greater for the tolerance limits which have expected failure rates of 1% and 5%, respectively, versus the prediction limit that is designed to include 100% of the next 100 measurements with 95% confidence. Use of these two alternative limits for groundwater detection monitoring is anything but a "matter of personal preference."

(4.6)

$= 4$ to ∞ , 95%

prediction limits,
normal prediction

APPENDIX C

SOIL BACKGROUND CONCENTRATION TOLERANCE LIMIT CALCULATIONS

APPENDIX C

SOIL BACKGROUND CONCENTRATION TOLERANCE LIMIT CALCULATIONS

Tolerance limits were calculated for background metals analytes using the procedure described in Gibbons, 1994, and used for background Intracoastal Waterway sediments in Appendix B. A step-by-step discussion of these calculations is provided below.

Step 1 - Calculate the Background Mean and Standard Deviation

These parameters were calculated for each background metal using EPA's *PRO UCL* statistical software package (EPA, 2007). These parameters are summarized in Table C-1.

Step 2- Calculate Tolerance Limit

Since the purpose of the tolerance limit is to identify metals concentrations that are higher than background a one-sided upper tolerance limit was calculated.

As provided in Gibbons, the tolerance limit is calculated from:

$$TL = \text{mean} + K * (\text{std. deviation})$$

Where K is a factor determined from statistical tables based on the number of samples in the background data set and the desired confidence and coverage goals. Consistent with Gibbons, 1994, a 95% confidence level with 95% coverage was used. Based on a background data set of 10 samples and these goals, and using Table 4.2 of Gibbons (see Appendix B), K was set at 2.911 for all background data sets, except for barium and zinc. The resultant upper tolerance limits are listed in Table C-1.

In the case of barium, inspection of the background data set (see Table C-2) indicates one value (1,130 mg/kg) significantly higher than the other nine values (mean of 244 mg/kg), and likely indicative of anthropogenic sources. Although EPA, 2002 does provide for consideration of anthropogenic sources not related to the site of interest when making background comparisons, for conservative purposes and based on discussions with EPA regarding the background zinc data (see below), this anomalously high barium concentration was removed from the background data set prior to calculating the barium tolerance limit. The background barium mean and standard deviation based on the remaining nine background values are listed in Table C-1. These values along with a K factor based on nine samples were used to calculate the barium tolerance limit in Table C-1.

Similarly for zinc, two values in the background data set (Table C-3) are significantly higher than the other eight values, although none of the zinc values were identified as outliers by a statistical test (Dixon's outlier test) using *PRO UCL*. Notwithstanding these findings and per discussions with EPA regarding the spatial distribution of the zinc concentrations within the background area, the two highest zinc concentrations were removed from the background data set prior to calculating the zinc tolerance limit. The background zinc mean and standard deviation based on the remaining eight background values are listed in Table C-1. These values along with a K factor based on eight samples were used to calculate the zinc tolerance limit in Table C-1.

TABLE C-1 - BACKGROUND SAMPLE STATISTICS - SOIL

Compound	Site-Specific Background Values (mg/kg)		
	Mean	Std. Dev.	Upper Tolerance Limit ⁽¹⁾
Arsenic	3.44	1.79	8.66
Barium ⁽²⁾	244	72	462
Chromium	15.2	3.0	24.0
Copper	12.1	4.0	23.6
Lead	13.4	1.5	17.9
Lithium	21.1	5.2	36.2
Manganese	377	94	650
Mercury	0.021	0.005	0.035
Molybdenum	0.52	0.07	0.74
Zinc ⁽³⁾	76.3	64.0	280

Note:

- (1) One-side upper tolerance limit for 95% confidence and 95% coverage.
- (2) Barium parameters calculated using data set with highest concentration removed.
- (3) Zinc parameters calculated using data set with two highest concentrations removed.

TABLE C-2 - BARIUM CONCENTRATIONS IN BACKGROUND SOIL SAMPLES

Sample Location	Concentration (mg/kg)
BSS-1	322
BSS-2	361
BSS-3	237
BSS-4	281
BSS-5	150
BSS-6	1130
BSS-7	281
BSS-8	215
BSS-9	177
BSS-10	177

TABLE C-3 - ZINC CONCENTRATIONS IN BACKGROUND SOIL SAMPLES

Sample Location	Concentration (mg/kg)
BSS-1	969
BSS-2	81.2
BSS-3	77
BSS-4	40.9
BSS-5	36.6
BSS-6	890J
BSS-7	227J
BSS-8	74J
BSS-9	37.1J
BSS-10	36.8J

Note:

Data qualifier: J = estimated value.

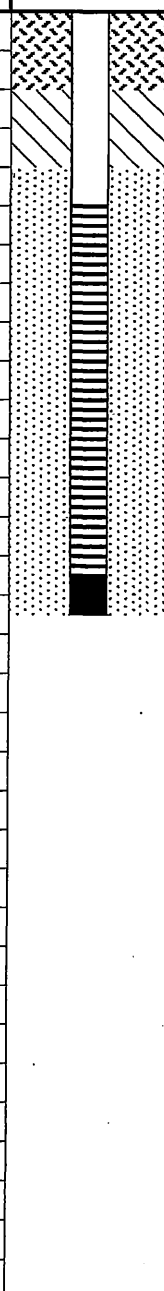
APPENDIX D
SOIL BORING LOGS

Log of Boring: ND2MW01

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	17
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554817.58
Drilling Method:	Hollow Stem Auger	Easting:	3154371.56
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	1.9
		TOC Elev. (ft MSL)	5.09

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		17.1	5/5	CL	(0.0 to 4.0) Silty sandy CLAY, brown to reddish-brown and gray, moist at 0.0 to 1.7, locally wet below 1.7, locally fractured.
		12.6			
5		13.7	5/5	CL/CH	(4.0 to 11.8) Silty CLAY, reddish-brown to gray, moist to locally wet, medium to high plasticity, firm, locally fractured, wet along fractures.
		16.8			
10		19	5/5	CL/CH	(11.8 to 12.4) Sandy silty CLAY, reddish-brown, moist to wet, ~20% sand as thin interbeds and lenses, medium plasticity silty clay, firm.
		21.9			
		26.5			
15		42.4	2/2	SC/CH	(12.4 to 13.4) Sandy CLAY with oyster shells, ~50% high plasticity, soft.
		345		CL	(13.4 to 15.0) Sandy silty CLAY, gray, wet, ~50% very fine-grained to fine-grained sand, ~ 50% high plasticity fines, soft.
					(15.0 to 17.0) Sandy CLAY, gray with dark brown staining along fractures, moist, ~10% to 20% fine-grained sand, 80% to 90% medium to low plasticity clay, very stiff, fractured with brown staining along fractures, chemical odor, borehole allowed to slough in to 15.5 for well construction.

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 5.0) Casing, 2" sch. 40 PVC
(5.0 to 15.0) Screen, 2" sch. 40 PVC, 0.01 slot
(15.0 to 15.5) End Cap

Annular Materials

(0.0 to 2.0) Portland Cement with ~ 5% bentonite gel
(2.0 to 4.0) Bentonite chips, 3/8"
(4.0 to 15.5) Sand, 20/40 silica

Log of Boring: ND3MW02

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

PBW Project No. 1352

Completion Date:	07/17/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554692.51
Drilling Method:	Hollow Stem Auger	Easting:	3154679.33
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	3.7
		TOC Elev. (ft MSL)	6.41

Depth (ft)	Well Construction Diagram	PID (ppm-V)	Recovery (ft/ft)	USCS	Lithologic Description
0		16.4	0.5/0.5		(0.0 to 0.5) Sandy CLAY, brown, moist, ~ 30% to 40% fine-grained sand, ~ 60% to 70% medium plasticity clay, firm.
			1.5/1.5		(0.5 to 2.0) Sandy CLAY as above, trace black mottling at 2.2, decrease in sand content below 2.0.
		14	5/5	CL	
5		9.5			(2.0 to 7.5) Sandy CLAY as above with local fractures, wet.
		6.8	5/5		
		0.7		CL/SP	(7.5 to 11.5) Sandy CLAY, brown, wet, ~ 20% to 50% fine-grained sand, ~ 50% to 80% high plasticity clay.
10		5.4			
		7.4	5/5	SC/SM	(11.5 to 14.6) Clayey silty SAND, brown, wet, ~ 30% to 50% medium plasticity fines, ~ 50% to 70% very fine to fine-grained sand, very soft.
15		6.1			
		9.9			
			5/5	SP	(14.6 to 21.1) Poorly graded SAND, brown, wet, visible NAPL at 21.0 to 21.1 on top of clay, very fine to fine-grained sand, silt locally, soft, running sand.
20		315			
		1755	1.5/1.5	CH	(21.1 to 21.5) Sandy CLAY, brown, moist, ~ 10% fine-grained sand, ~ 90% high plasticity clay, firm, borehole drilled to 22.0 for well construction.
25					
30					

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 11.5) Casing, 2" sch. 40 PVC
(11.5 to 21.5) Screen, 2" sch. 40 PVC, 0.01 slot
(21.5 to 22.0) End Cap

Annular Materials

(0.0 to 5.0) Portland Cement with ~ 5% bentonite gel
(5.0 to 8.0) Bentonite chips, 3/8"
(8.0 to 22.0) Sand, 20/40 silica

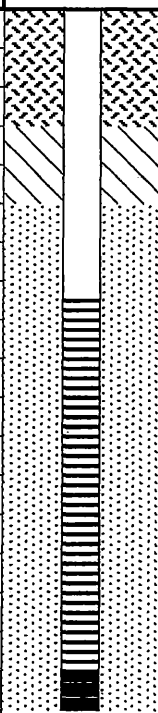
PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: ND4MW03

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

PBW Project No. 1352

Completion Date:	07/17/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554562.67
Drilling Method:	Hollow Stem Auger	Easting:	3154758.06
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	3.2
		TOC Elev. (ft MSL)	6.2

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.9	0.5/0.5	CL	(0.0 to 0.2) Silty SAND, light brown, moist, very fine-grained sand, soft.
		1.5	1.5/1.5		(0.2 to 0.6) Sandy CLAY, dark brown, moist, ~ 20% very fine-grained sand, ~ 80% medium plasticity clay, slightly firm.
		1.6	5/5		(0.6 to 2.0) Sandy CLAY, dark brown, becomes black below 1.5.
		1.9			(2.0 to 4.2) Sandy CLAY, locally black and dark reddish-brown, becomes highly plastic below ~ 3.0.
5					(4.2 to 8.2) Sandy CLAY as above, reddish-brown, moist, wet below 5.9, with thin sand interbeds locally.
		1.7	5/5	SP/SC	(8.2 to 10.4) Sandy CLAY, brown, wet, ~ 40 very fine-grained sand, ~ 60% highly plastic clay, soft.
10		0.8			(10.4 to 15.6) Poorly graded SAND with clayey sand, brown, wet, ~80% fine-grained sand, ~ 20% high plasticity clay, very soft.
		2.4	5/5		(15.6 to 17.0) Poorly graded SAND and sandy CLAY, brown, wet, ~50% very fine-grained sand, ~ 50% high plasticity clay, very soft.
15		2.1		CH	(17.0 to 20.0) Sandy CLAY, brown to grayish brown, wet, <5% fine-grained sand, ~95% high plasticity CLAY, soft, borehole allowed to slough to 18.0 for well construction.
		2.9	5/5		
20		3.4			
25					
30					

PBW

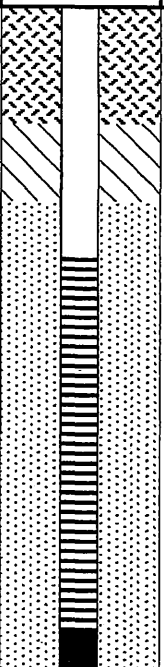
Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 7.5) Casing, 2" sch. 40 PVC
(7.5 to 17.5) Screen, 2" sch. 40 PVC, 0.01 slot
(17.5 to 18.0) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with ~ 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 18.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: NE1MW04			
Gulfco Marine Maintenance Superfund Site Freeport, TX			Completion Date:	07/21/06	Borehole Diameter (in.):	8.25
			Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	17
PBW Project No. 1352			Field Supervisor:	Tim Jennings, P.G.	Northing:	13555097.66
			Drilling Method:	Hollow Stem Auger	Easting:	3154385.63
			Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	2.1
					TOC Elev. (ft MSL)	4.9
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		19	5/5	CL	(0.0 to 5.0) Sandy CLAY, dark gray to reddish-brown, moist, ~ 10% to 20% fine-grained sand, ~ 80% to 90% medium to low plasticity clay, very stiff.	
		28.2				
5		20.9	5/5	SM/SC	(5.0 to 8.2) Sandy silty CLAY, gray to brown, wet, ~ 20% to 40% fine-grained sand and silt, 60% - 80% medium to high plasticity clay, soft.	
		1				
10		1.1	4.5/5	CH	(8.2 - 10.0) Silty clayey SAND, brown to gray, wet, ~50% high plasticity silt and clay, ~ 50% very fine-grained to fine-grained sand, firm.	
		1.1				
		0.7			(10.0 to 15.0) Silty sandy CLAY, reddish-brown to gray, wet, ~ 20% to 40% silt and very fine-grained sand, ~ 60% to 80% high plasticity clay, very soft, oyster shells at 11.8 to 12.2.	
15			2/2	CL	(15.0 to 16.5) Sandy CLAY with carbonate nodules, gray, wet, ~ 30% fine-grained sand, ~ 20% carbonate nodules, ~ 50% medium plasticity clay, very fractured.	
					(16.5 to 17.0) Sandy CLAY, brown, moist, ~ 10% fine-sand, ~ 90% low to medium plasticity clay, very stiff, first confining clay.	
20						
25						
30						

PBW

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Round Rock, TX 78664

Well Materials

(0.0 to 6.5) Casing, 2" sch. 40 PVC
(6.5 to 16.5) Screen, 2" sch. 40 PVC, 0.01 slot
(16.5 to 17.0) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with ~ 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 17.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NE3MW05

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554868.05
Drilling Method:	Hollow Stem Auger	Easting:	3154789.25
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	3.3
		TOC Elev. (ft MSL)	6.53

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0	4/5	SP/CL	(0.0 to 0.6) SAND and CLAY, brown, moist, ~ 50% medium plasticity clay, 50% medium-grained sand.
		0		CL	(0.6 to 2.3) Sandy CLAY, brown, wet, ~ 30% fine to coarse-grained sand, ~ 70% medium plasticity clays, very soft.
		0			(2.3 to 3.7) Silty sandy CLAY, gray to black, moist, ~ 10% to 20% silt and fine-grained sand, ~ 80% to 90% medium plasticity clay, firm.
5		0.4	1/5	SM	(3.7 to 10.0) Silty SAND, brown, wet, ~ 30% to 40% fines, ~ 60% to 70% very fine to fine-grained sand, soft, black sludge-like material from groundwater in reducing environment, debris blocking core barrel causing poor recovery, large anchor rope around augers when pulled—likely reason for poor recovery.
10		0			
		0	3/5	SM/SC	(10.0 to 15.0) Silty clayey SAND, brown, wet, ~ 40% to 50% medium to high plasticity fines, ~ 50% to 60% very fine to fine-grained sand.
15		0			
		0	3/5	SC/CL	(15.0 to 16.5) Silty clayey SAND as above with thin interbedded CLAY locally, due to poor recovery very little clay observed, first "confining" clay interpreted at ~ 15.5 to 16.5 with the "lower sand" below ~ 16.5.
		0			
20		0	2/2	SP	(16.5 to 20.0) Poorly graded SAND with CLAY, brown, wet, very fine to fine-grained sand, very "soupy."
		0			(20.0 to 22.0) Poorly graded SAND, brown, wet, very fine to medium-grained sand.

Notes:

1. Hydrocarbon-like sheen on water in borehole, but no visible chemical or hydrocarbon observed in core at any depth.

PBW

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Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0 to 5.5) Casing, 2" sch. 40 PVC
(5.5 to 15.5) Screen, 2" sch. 40 PVC, 0.01 slot
(15.5 to 16.0) End Cap

Annular Materials

(0.0 to 2.0) Portland Cement with ~ 5% bentonite gel
(2.0 to 4.0) Bentonite chips, 3/8"
(4.0 to 16.0) Sand, 20/40 silica
(16.0 to 22.0) Bentonite chips, 3/8"

This boring log should not be used separately from the original report.

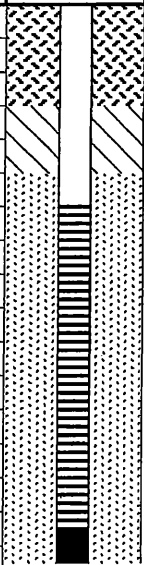
PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NF2MW06

Gulfc0 Marine Maintenance
Superfund Site
Freeport, TX

PBW Project No. 1352

Completion Date:	07/31/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
Field Supervisor:	Tim Jennings, P.G.	Northing:	13555117.77
Drilling Method:	Hollow Stem Auger	Easting:	3154650.46
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	2.2
		TOC Elev. (ft MSL)	5.35

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		3.4	4/4	CL	(0.0 to 0.7) Sandy CLAY, brown, moist, ~ 20% fine-grained sand, ~ 80% medium plasticity clay, firm, abundant roots.
		3.5			(0.7 to 5.2) Silty CLAY, gray to brown, moist, medium plasticity, firm.
5		3.1	4/4	CL/SM/SC	(5.2 to 9.8) Silty sandy CLAY and clayey silty SAND, gray to brown, wet, ~ 40% to 50% very fine-grained sand, ~ 50% to 60% medium plasticity clay and silt, soft to slightly firm.
		2.8			
10		2.8	4/4	SP/SM	(9.8 to 13.9) Poorly graded SAND and silty SAND, brown, wet, ~ 20% to 30% low plasticity fines, ~ 70% to 80% very fine to fine-grained sand.
		4.1			
		4.7	4/4	CH	(13.9 to 14.5) Silty CLAY, brown, moist to wet, high plasticity fines, very soft.
15		5.6			
		6.1	4/4	CH	(14.5 to 16.3) Silty SAND and poorly graded SAND, brown, gray below 15.6, very fine to fine-grained sand with ~ 10% to 20% silt above 15.6, moderate chemical odor where gray.
		6.3			
20				SP	(16.3 to 17.9) Sandy CLAY, reddish-brown, moist (wet on thin sand interbeds), ~ 80% to 90% high plasticity clay, soft, firm at 17.2 to 17.9.
					(17.9 to 20.0) Poorly graded sand, brown, wet, very fine to fine-grained sand, soft.
25					
30					

PBW

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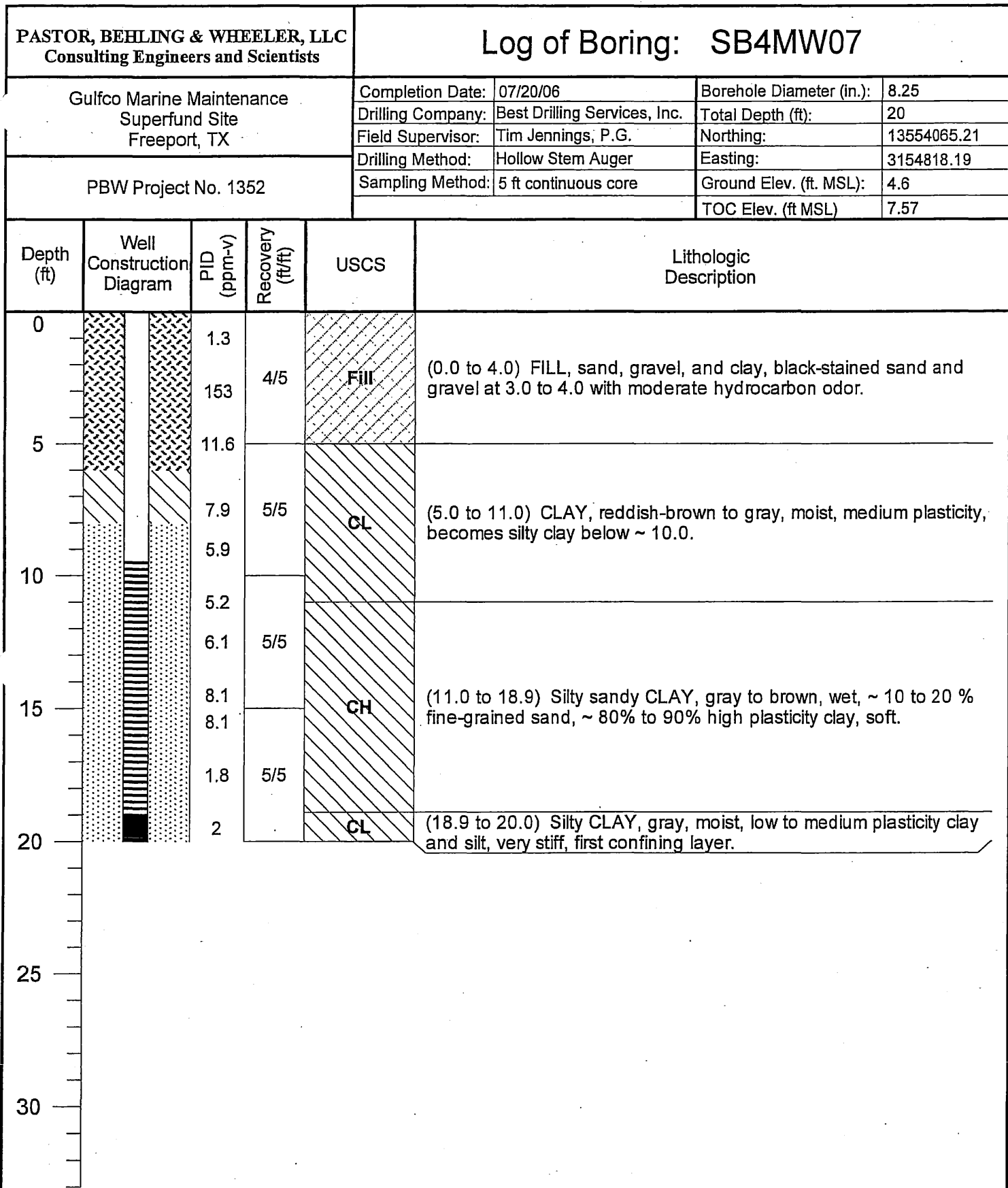
Well Materials

(0.0 to 6.0) Casing, 2" sch. 40 PVC
(6.0 to 16.0) Screen, 2" sch. 40 PVC, 0.01 slot
(16.0 to 16.5) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with ~ 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 16.5.0) Sand, 20/40 silica

This boring log should not be used separately from the original report.



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Well Materials

(0.0 to 9.5) Casing, 2" sch. 40 PVC
 (9.5 to 19.5) Screen, 2" sch. 40 PVC, 0.01 slot
 (19.5 to 20.0) End Cap

Annular Materials

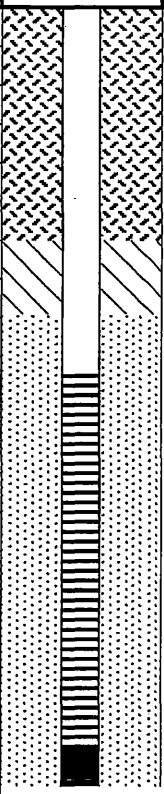
(0.0 to 6.0) Portland Cement with ~ 5% bentonite gel
 (6.0 to 8.0) Bentonite chips, 3/8"
 (8.0 to 20.0) Sand, 20/40 silica

Completion Date:	07/19/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554391.06
Drilling Method:	Hollow Stem Auger	Easting:	3154820.14
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.4
		TOC Elev. (ft MSL)	7.54

Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.4
		TOC Elev. (ft MSL)	7.54

PBW

(0.0 to 4.0) Portland Cement with ~ 5% bentonite gel
(4.0 to 6.5) Bentonite chips, 3/8"
(6.5 to 20.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: SE6MW09			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	07/20/06	Borehole Diameter (in.):	8.25
				Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
				Field Supervisor:	Tim Jennings, P.G.	Northing:	13554149.98
				Drilling Method:	Hollow Stem Auger	Easting:	3155180.49
				Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.7
PBW Project No. 1352						TOC Elev. (ft MSL)	7.66
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		2.8	3.5/5	Fill	(0.0 to 2.4) FILL, sand, gravel, and clay, brown, moist to dry, very hard, abundant roots.		
		20.1		SP	(2.4 to 5.2) Poorly graded SAND, dark brown, moist, trace black staining at 2.4 to 2.6, fine-grained sand, soft.		
5		6.3	5/5	CL	(5.2 to 9.5) Silty CLAY, brown, moist, medium plasticity fines, stiff, increased moisture and softer below 8.0.		
		1.5					
		1.7	5/5	SM/SC	(9.5 to 13.0) Silty clayey SAND, brown, wet, ~ 40 to 50% high plasticity fines, ~ 50% to 60% very fine to fine-grained sand, soft.		
10		1.9					
		1.8		SM	(13.0 to 17.9) Silty SAND, poorly graded sand, interbedded, brown, wet, ~ 20% to 40% high plasticity fines, ~ 60% to 80% very fine to fine-grained sand, very soft.		
15		1.8					
		2.2		SM/SC	(17.9 to 19.4) Silty clayey SAND, brown, wet, ~ 50% high plasticity fines, ~ 50% very fine to fine-grained sand and sand interbeds, soft.		
20		1.5		CL	(19.4 to 20.0) Silty CLAY, grayish-brown, moist, high plasticity fines, very firm.		
25							
30							

PBW

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2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Tel (512) 671-3434 Fax (512) 671-3446

Well Materials

(0.0 to 9.5) Casing, 2" sch. 40 PVC
(9.5 to 19.5) Screen, 2" sch. 40 PVC, 0.01 slot
(19.5 to 20.0) End Cap

Annular Materials

(0.0 to 6.0) Portland Cement with ~ 5% bentonite gel
(6.0 to 7.9) Bentonite chips, 3/8"
(7.9 to 20.0) Sand, 20/40 silica

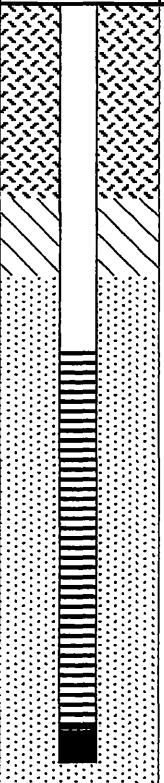
This boring log should not be used separately from the original report

Log of Boring: SF5MW10

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/20/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554284.4
Drilling Method:	Hollow Stem Auger	Easting:	3155154.1
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	5
		TOC Elev. (ft MSL)	8.01

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-V)	Recovery (ft/ft)	USCS	Lithologic Description
0				SM/SC	(0.0 to 1.3) Silty clayey SAND, brown, moist, ~ 50% low plasticity fines, ~ 50% fine-grained sand, firm, abundant roots.
		1.5	4/5	CL	(1.3 to 2.5) Silty CLAY, brown to gray, moist, low plasticity fines, stiff.
		2.4		SM	(2.5 to 5.0) Silty SAND, brown to black, moist, ~ 40% low plasticity fines, ~ 60% fine-grained sand, black staining has slight hydrocarbon odor.
5		1.5	5/5	CL	(5.0 to 8.6) Silty sandy CLAY, reddish brown, moist, ~ 10% to 20% fine-grained sand and silt, ~ 80% to 90% medium plasticity clay, firm, stiff.
		1.7		SM/SC	(8.6 to 10.5) Silty clayey SAND, brown, moist, ~ 50% high plasticity fines, ~ 50% very fine-grained sand, very soft.
10		1.7		SM/MH/CL	(10.5 to 15.0) Interbedded silty SAND, sandy SILT, and silty clayey SAND, brown, wet, ~40% to 60% high plasticity fines as interbeds, ~ 40 to 60% very fine-grained sand, soft.
		1.5	5/5	SM	(15.0 to 18.2) Silty SAND, brown, wet, ~ 40% medium plasticity silt, ~60% very fine to fine-grained sand, soft.
15		1.4		CH	(18.2 to 20.0) Silty CLAY, grayish-brown, moist, high plasticity fines, soft, first confining clay.
		1.4			
20		1.5			
25					
30					

PBW

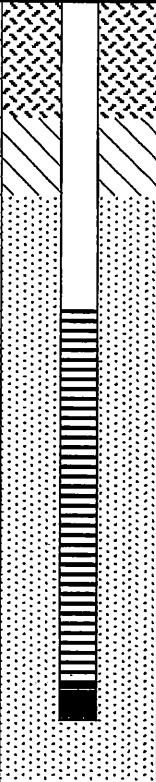
Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 9.0) Casing, 2" sch. 40 PVC
(9.0 to 19.0) Screen, 2" sch. 40 PVC, 0.01 slot
(19.0 to 19.5) End Cap

Annular Materials

(0.0 to 5.0) Portland Cement with ~ 5% bentonite gel
(5.0 to 7.0) Bentonite chips, 3/8"
(7.0 to 20.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: SF6MW11			
Gulfco Marine Maintenance Superfund Site Freeport, TX			Completion Date:	07/20/06	Borehole Diameter (in.):	8.25
			Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
PBW Project No. 1352			Field Supervisor:	Tim Jennings, P.G.	Northing:	13554215.04
			Drilling Method:	Hollow Stem Auger	Easting:	3155265.88
			Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	5
					TOC Elev. (ft MSL)	8.11
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		0.1	3/5	Fill	(0.0 to 2.5) FILL, sandy clay with gravel and oyster shells, dark brown, moist, ~ 20% to 30% fine-grained sand, moist, ~ 20% to 30% fine-grained sand, ~ 15% gravel and oyster shells, ~ 70% to 80% low plasticity clay, very stiff.	
		1.6				
		1.5				
5		1.6	5/5	CL	(2.5 to 9.5) Silty CLAY, grayish-brown, moist, ~10% silt and very fine-grained sand, ~ 90% medium plasticity clay, very stiff, firm below 8.5, few oyster shell fragments and carbonate nodules.	
		1.4				
10		1.9	5/5	CL/SC	(9.5 to 13.3) Sandy silty CLAY and SAND, brown, wet, ~ 40% very fine to fine-grained sand, a few thin interbeds, ~ 60% high plasticity fines, soft.	
		1.7				
15		2	5/5	SM	(13.3 to 18.0) Silty SAND, brown, wet, ~30% to 40% fines, ~ 60% to 70% very fine to fine-grained sand, soft.	
		2				
		1.8		CL	(18.0 to 20.0) Silty sandy CLAY, brown, moist, ~ 10% to 20% fine-grained sand and silt, ~ 80% to 90% medium plasticity clay, firm.	
20						
25						
30						

PBW

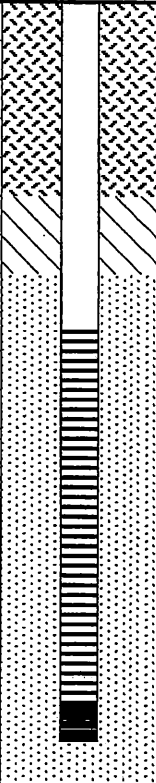
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2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 8.0) Casing, 2" sch. 40 PVC
(8.0 to 18.0) Screen, 2" sch. 40 PVC, 0.01 slot
(18.0 to 18.5) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with ~ 5% bentonite gel
(.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 20.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: SF7MW12			
Gulfco Marine Maintenance Superfund Site Freeport, TX			Completion Date:	07/20/06	Borehole Diameter (in.):	8.25
			Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
PBW Project No. 1352			Field Supervisor:	Tim Jennings, P.G.	Northing:	13554105.36
			Drilling Method:	Hollow Stem Auger	Easting:	3155304.07
			Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.7
					TOC Elev. (ft MSL)	7.96
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		1.5	4/5	Fill	(0.0 to 1.0) FILL, poorly graded SAND, brown, moist, very fine to fine-grained sand.	
		21.4			(1.0 to 5.0) FILL, sand, clay, gravel and shells, stiff, dark brown to black with moderate chemical odor locally near 2.0 to 3.0.	
5		1.8				
		2.6	2.5/5	CL	(5.0 to 10.0) Silty sandy CLAY, dark brown to gray, moist, ~5% to 10% very fine-grained sand and silt, ~ 90% to 95% medium plasticity clay, stiff.	
10		1.9				
		1.6	5/5	SM/SC	(10.0 to 14.5) Silty SAND and clayey SAND, grayish-brown and brown, wet, ~ 30% high plasticity clay as clayey sand interbeds, ~ 20% low plasticity silt, ~ 50% very fine to fine-grained sand, soft.	
15		1.9				
		1.7	5/5	SP	(14.5 to 18.0) Poorly graded SAND with silt, brown, wet, < 10% low plasticity fines, > 90% very fine to fine-grained sand, very soft.	
20		1.8			(18.0 to 19.0) Interbedded, poorly graded SAND and silty clayey SAND, brown, wet, ~ 50% low plasticity fines, ~ 50% very fine to fine-grained sand, soft.	
					(19.0 to 20.0) Silty CLAY, grayish-brown, moist, high plasticity fines very firm, first confining clay.	
25						
30						

PBW

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Well Materials

(0.0 to 8.5) Casing, 2" sch. 40 PVC
(8.5 to 18.5) Screen, 2" sch. 40 PVC, 0.01 slot
(18.5 to 19.0) End Cap

Annular Materials

(0.0 to 5.0) Portland Cement with ~ 5% bentonite gel
(5.0 to 7.0) Bentonite chips, 3/8"
(7.0 to 20.0) Sand, 20/40 silica

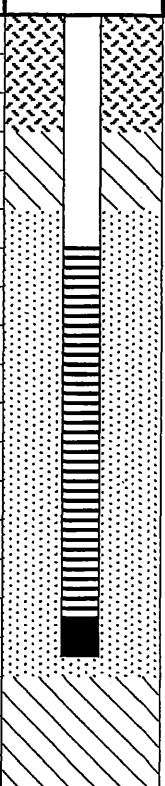
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Log of Boring: SG2MW13

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/19/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554472.65
Drilling Method:	Hollow Stem Auger	Easting:	3155012.01
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.5
		TOC Elev. (ft MSL)	7.71

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		1.4	3.5/5	FILL	(0.0 TO 2.1) FILL, sand, gravel, and clay, firm, soft.
		11.1		SP	(2.1 to 3.0) FILL, sand, brown, moist.
5		3.4	5/5	CL/CH	(3.0 to 11.2) Sandy silty CLAY, reddish-brown to gray, moist, ~ 20% to 30% fine-grained sand and silt, ~ 70% to 80% medium to high plasticity clay, firm.
		4.6			
10		4	5/5		(11.2 to 16.0) Interbedded SAND, silty SAND, and sandy CLAY, brown, wet, ~ 50% to 60% poorly graded fine-grained sand interbeds (0.5 inches thick), locally very silty, ~ 40% to 50% high plasticity clay as interbeds.
		5.8			
15		4.9	5/5	SP/SM/CL	(16.0 to 18.2) CLAY, reddish-brown to brown, moist, high plasticity clay, first confining clay.
		5.3			
		5.3	5/5	CH	(18.2 to 20.0) CLAY as above, with ~ 45% shell-derived sand (ground oyster shells) interbeds, brown, wet.
		3.2			
20		4.4	2/2	CH/SP/SC	(20.0 to 22.0) Shell-derived SAND, brown, fine to coarse-grained, wet.
		5.2		SP	
25					
30					

PBW

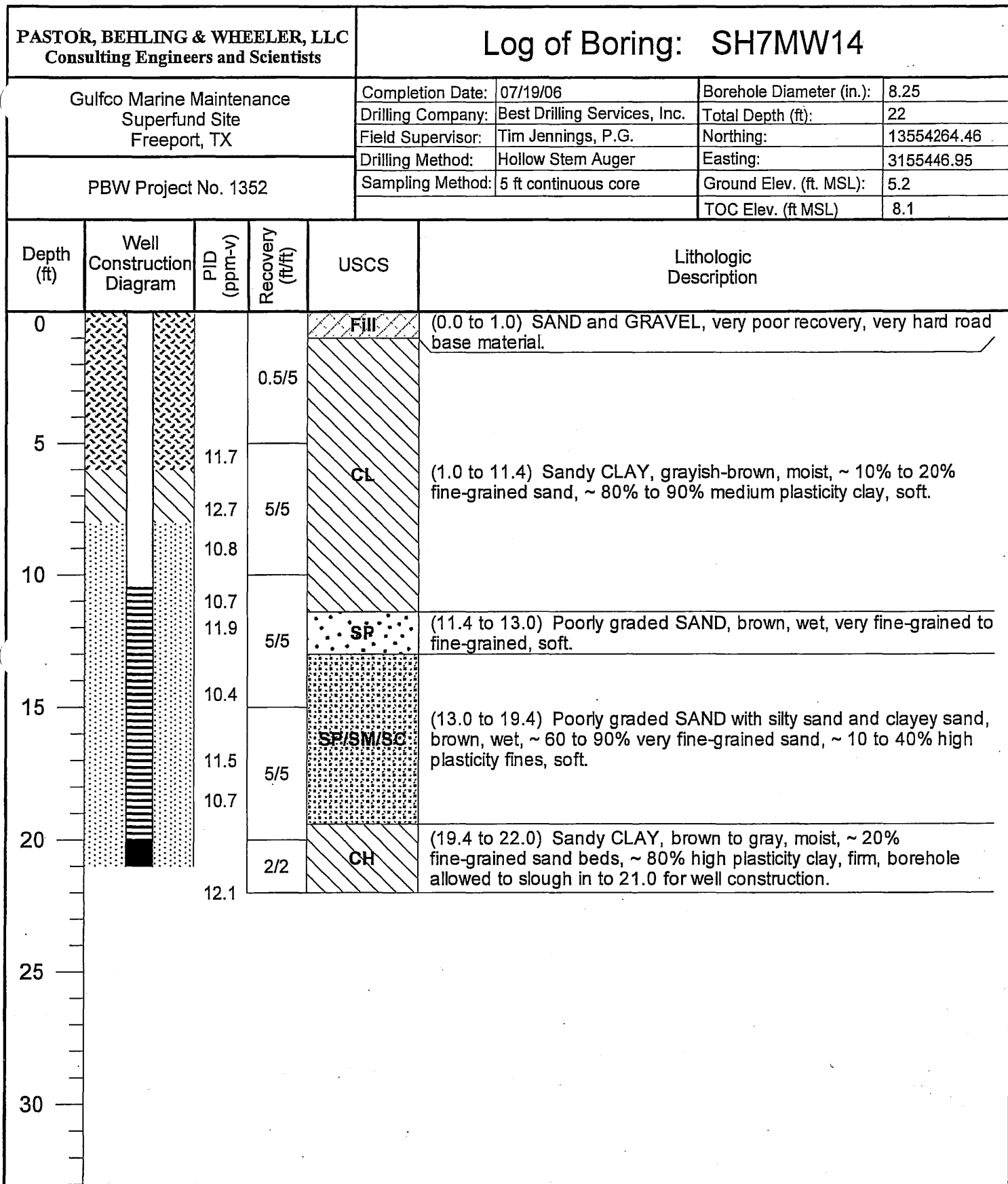
Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 6.0) Casing, 2" sch. 40 PVC
(6.0 to 16.0) Screen, 2" sch. 40 PVC, 0.01 slot
(16.0 to 16.5) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with ~ 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 17.0) Sand, 20/40 silica
(17.0 to 20.0) Bentonite chips, 3/8"



PBW

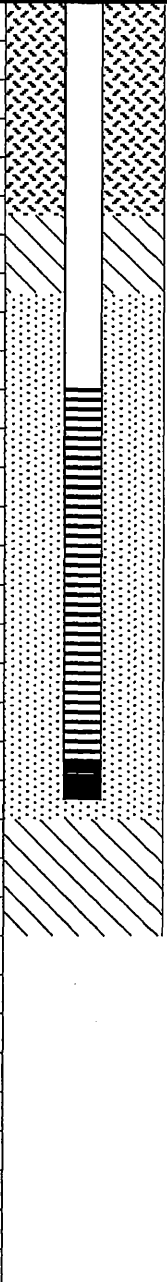
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 Round Rock, TX 78664

Well Materials

(0.0 to 10.0) Casing, 2" sch. 40 PVC
 (10.0 to 20.0) Screen, 2" sch. 40 PVC, 0.01 slot
 (20.5 to 21.0) End Cap

Annular Materials

(0.0 to 6.0) Portland Cement with ~ 5% bentonite gel
 (6.0 to 8.0) Bentonite chips, 3/8"
 (8.0 to 21.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: SJ1MW15				
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 07/19/06		Borehole Diameter (in.): 8.25		
				Drilling Company: Best Drilling Services, Inc.		Total Depth (ft): 25		
PBW Project No. 1352				Field Supervisor: Tim Jennings, P.G.		Northing: 13554764.11		
				Drilling Method: Hollow Stem Auger		Easting: 3155165.2		
				Sampling Method: 5 ft continuous core		Ground Elev. (ft. MSL): 2.5		
						TOC Elev. (ft MSL) 5.61		
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description			
0		3.4	3/5	CL	(0.0 to 1.0) Sandy CLAY, brown, moist, ~ 40% fine to medium-grained sand, ~ 60% low plasticity clay, soft.			
		3.9						
5		5.9			(1.0 to 7.5) Sandy CLAY, reddish-brown to gray, moist, ~ 10% fine-grained sand and silt, ~ 90% medium plasticity clay.			
		7.3	4/5	SP/SM				
		6.9						
10		5.9						
		5.5	4.5/5		(7.5 to 20.0) Silty Clayey SAND, brown, moist to wet below 10.0, ~ 20% to 40% high plasticity fines as interbeds, ~ 60% to 80% very fine to fine-grained sand with poorly graded sand interbeds at 11.5 to 12.5 and 13.2 to 15.0, soft.			
		7.3						
15		8.4						
		7.5	5/5					
20		5.9						
		9.2	CH	(20.0 to 23.7) Silty CLAY, gray, moist, high plasticity, firm, first confining clay.				
		10.8		(23.7 to 25.0) Poorly graded SAND, brown, wet, very fine to fine-grained sand, soft, borehole allowed to slough in to 24.0 for well construction.				
25								
30								

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Well Materials

(0.0 to 10.0) Casing, 2" sch. 40 PVC
(10.0 to 20.0) Screen, 2" sch. 40 PVC, 0.01 slot
(20.5 to 20.5) End Cap

Annular Materials

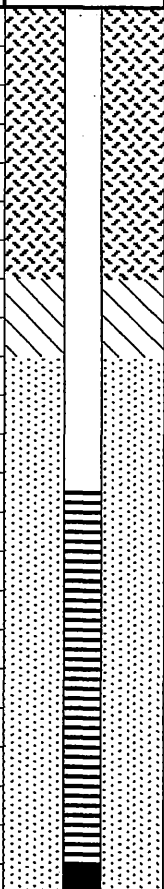
(0.0 to 5.5) Portland Cement with ~ 5% bentonite gel
(5.5 to 7.5) Bentonite chips, 3/8"
(7.5 to 21.0) Sand, 20/40 silica
(21.0 to 24.0) Bentonite chips, 3/8"

Log of Boring: SJ7MW16

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/18/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	25
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554383.75
Drilling Method:	Hollow Stem Auger	Easting:	3155635.14
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	4.7
		TOC Elev. (ft MSL)	7.19

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0	5/5	Fill	(0.0 to 2.0) FILL, crushed shell.
		0			(2.0 to 3.4) FILL, sandy gravelly clay with brick fragments, abundant roots, moist.
5		0.3	5/5	CL	(3.4 to 10.2) Sandy CLAY and CLAY, brown, mottled dark reddish-brown and gray, moist, ~ 10% to 20% fine to medium-grained sand, ~ 80% to 90% medium to high plasticity clay, very firm, interbedded poorly graded sand at 4.6 to 5.0.
		0.2			
10		0.2	5/5	SM	(10.2 to 11.4) Silty SAND, brown, wet, ~ 30% to 40% fines, ~ 60% to 70% fine-grained sand.
		0			
15		0.1	5/5	SP	(11.4 to 17.0) Poorly graded SAND, brown, wet, fine-grained, soft.
		0.1			
20		0.1	5/5	SC	(17.0 to 18.5) Clayey SAND, brown, wet, ~ 50% high plasticity clay, ~ 50% fine-grained sand, very soft.
		0.4			
		1.9	5/5	SP	(18.5 to 21.9) Poorly graded SAND, brown, wet, very fine-grained, thin (< 0.2 inches) sandy clay interbeds locally, very soft.
		1.5			
25		2.3	5/5	CH	(21.9 to 25.0) Sandy CLAY, dark grayish-brown, moist, ~ 20% fine-grained sand, ~ 80% high plasticity clay, few interbedded sands at 21.9 to 22.5, soft, borehole allowed to slough in to 23.0 for well construction.

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Well Materials

(0.0 to 12.5) Casing, 2" sch. 40 PVC
(12.5 to 22.5) Screen, 2" sch. 40 PVC, 0.01 slot
(22.5 to 23.0) End Cap

Annular Materials

(0.0 to 7.0) Portland Cement with ~ 5% bentonite gel
(7.0 to 9.0) Bentonite chips, 3/8"
(9.0 to 23.0) Sand, 20/40 silica

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Consulting Engineers and Scientists

Log of Boring: SL8MW17

Gulfc0 Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/18/06	Borehole Diameter (in.):	8.25
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	33
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554520.95
Drilling Method:	Hollow Stem Auger	Easting:	3155809.04
Sampling Method:	5 ft continuous core	Ground Elev. (ft. MSL):	2.9
		TOC Elev. (ft MSL)	5.87

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0		CL	(0.0 to 0.5) Sandy CLAY, brown, moist, ~ 30% fine-grained sand, ~70% medium plasticity CLAY, < 5% oyster shell fragments, soft.
		6.8	4/5	SP	(0.5 to 2.5) SAND and clayey SAND, brown, moist, ~ 30% to 40% medium to high plasticity clay, ~ 60% to 70% very fine to fine-grained sand, < 5% oyster shell fragments, soft.
5		0		CL	(2.5 to 4.0) Poorly graded SAND, brown, moist, very fine-grained, soft.
		8.7	3.25/5	CH	(4.0 to 5.0) Sandy CLAY, brown, moist, ~ 30% fine-grained sand, ~70% clay.
10		5.6			(5.0 to 11.3) Sandy CLAY, brown, moist, ~ 30%, fine-grained sand, ~70% high plasticity clay, ~ 10% thin sand interbeds.
		7.2	3.5/5	SP/SM	(11.3 to 15.0) Poorly graded SAND and SILT, brown, wet, very fine-grained sand, soft, ~ 20% to 30% high plasticity fines.
15		2.3			
		42.8	2/5		
20		36.4	5/5	SP	(15.0-30.0) SAND as above with decreasing silt content below 15.0.
25		38.2			
		40.1	3.5/5		
30		50			
		52.6	3/3	CL	(30.0 to 33.0) Sandy CLAY, mottled gray and brown, moist, ~ 10% to 20% fine-grained sand, ~ 80% to 90% medium plasticity clay, very firm, abundant carbonate nodules.

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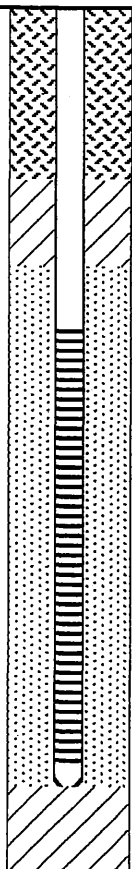
Well Materials

(0.0 to 15.0) Casing, 2" sch. 40 PVC
(15.0 to 25.0) Screen, 2" sch. 40 PVC, 0.01 slot
(25.0 to 25.3) End Cap

Annular Materials

(0.0 to 9.0) Portland Cement with ~ 5% bentonite gel
(9.0 to 11.0) Bentonite chips, 3/8"
(11.0 to 25.3) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: NB4MW18			
Gulfco Marine Maintenance Superfund Site Freeport, TX PBW Project No. 1352		Completion Date:	05/30/07	Borehole Diameter (in.):	8.25
		Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	19
		Field Supervisor:	Len Mason, PG	Northing:	13554255.42
		Drilling Method:	Hollow Stem Auger	Easting:	3154474.18
		Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	2.5
				TOC Elev. (ft MSL)	4.96

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.0	4/5	SC/SM	(0.0 to 0.4) Clayey silty SAND, brown, slightly moist, very fine-grained quartz, crumbly, some vegetation throughout.
2		0.4			
4		0.2			
6		0.3	5/5	CH	(0.4 to 12.2) CLAY, brown, dark brown, and some blackish-brown, moist, high plasticity, slightly firm, root fibers in top 2 feet, at 2.5 feet becoming gray and brown/strong brown, mottled, moisture content increasing, 5 feet to 6.9 feet has some areas of saturation, mostly reddish-brown with some gray mottling at 6.9 feet, becomes gray at 8.9 feet.
8		0.2			
10		0.4			
12		0.5	5/5		(12.2 to 17.9) Slightly sandy clayey SILT, mostly gray with some reddish-brown, saturated, ~20% clay, ~ 5-10% very fine-grained sand, soft, thin shell fragment layer at 12.3 feet.
14		0.5		ML	
16		0.5			
18		0.5	2/2		(17.9 to 20.0) Silty CLAY, gray with some olive-gray, slightly mottled, slightly moist, high plasticity, firm.
20			2/2	CH	
22					
24					
26					
28					
30					

PBW

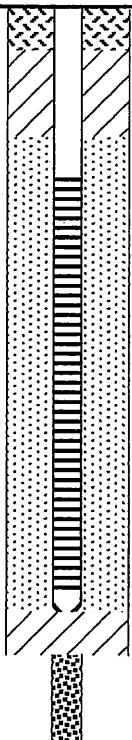
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Well Materials

(0.0 to 7.5) Casing, 2" sch. 40 PVC
 (7.5 to 17.5) Screen, 2" sch. 40 PVC, 0.01 slot
 (17.5 to 18.0) End Cap

Annular Materials

(0.0 to 4.0) Portland Cement with 5% bentonite gel
 (4.0 to 6.0) Bentonite chips, 3/8"
 (6.0 to 18.0) Sand, 20/40 silica
 (18.0 to 20.0) Coated bentonite pellets

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: NG3MW19			
Gulfo Marine Maintenance Superfund Site Freeport, TX			Completion Date:	05/23/07	Borehole Diameter (in.):	8.25
			Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	17
PBW Project No. 1352			Field Supervisor:	Tim Jennings, PG	Northing:	13555039.92
			Drilling Method:	Hollow Stem Auger	Easting:	3154974.73
			Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	2.2
					TOC Elev. (ft MSL)	5.08
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		0.1	4/5	SP	(0.0 to 0.4) Clayey SAND, brown, moist, ~ 20% low plasticity fines, 80% fine to medium-grained sand, soft.	
2		0.0		CL	(0.4 to 7.5) Sandy CLAY, gray 0.4 - 1.4 feet becoming reddish brown with gray mottling below, moist, ~ 10-20% very fine to fine-grained sand, ~ 80-90% medium plasticity clays, firm to soft, few oxidized iron nodules, becomes saturated below 4 feet.	
4		0.4				
6		0.6	0/5	SP	(7.5 to 12.0) Silty clayey SAND, brown, wet, ~ 20-50% low plasticity fines, ~ 70-80% very fine to fine-grained sand, very soft, increasing clay content below 11 feet, grades into sandy clay at 12 feet.	
8						
10		0.2	5/5	CL	(12.0 to 16.1) Sandy CLAY, grayish brown, wet, ~10-20% fine-grained sand, ~ 80% medium plasticity clay, very soft.	
12		0.1				
14		0.0		SP	(16.1 to 17.0) SAND, poorly graded, brown, wet, fine to medium-grained, abundant shell fragments, soft.	
16			2/5			
18						
20						
22						
24						
26						
28						
30						

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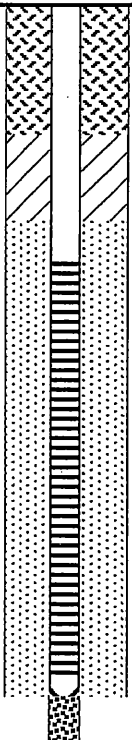
Well Materials

(0.0 to 4.0) Casing, 2" sch. 40 PVC
(4.0 to 13.5) Screen, 2" sch. 40 PVC, 0.01 slot
(13.5 to 14.0) End Cap

Annular Materials

(0.0-1.0) Portland Cement with 5% bentonite gel
(1.0-3.0) Bentonite chips, 3/8"
(3.0-14.0) Sand, 20/40 silica
(14.0-15.0) Coated bentonite pellets

2" borehole caved in from 15-17'

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: OMW20			
Gulfco Marine Maintenance Superfund Site Freeport, TX			Completion Date:	05/24/07	Borehole Diameter (in.):	8.25
			Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	17.5
PBW Project No. 1352			Field Supervisor:	Tim Jennings, PG	Northing:	13554952.64
			Drilling Method:	Hollow Stem Auger	Easting:	3154011.31
			Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	1.6
					TOC Elev. (ft MSL)	4.88
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		0.0	5/5	CL	(0.0 to 0.8) Silty sandy CLAY dark gray, wet, ~ 20% silt and very fine sand, ~ 80% medium plasticity clay, soft, abundant roots, abundant organic matter.	
2		0.0		CL		
4		0.0	4/5	CL	(0.8 to 7.5) Sandy CLAY, reddish-brown with gray mottling, moist, ~ 10% fine sand, ~ 90% medium plasticity clay, firm, few oxidized iron nodules.	
6		0.0		CL		
8			5/5	CL	(7.5 to 10.0) Sandy CLAY, gray with reddish-brown mottling, moist, ~ 10 -20% fine sand, ~ 80% medium plasticity clay, firm to soft.	
10		0.1		CL	(10.0 to 12.4) Silty CLAY, reddish brown, wet, < 20% low plasticity silt, > 80% high plasticity clay, soft, a few small carbonate concretions.	
12		0.2	2.5/2.5	CL	(12.4 to 13.6) Silty CLAY, gray, wet, ~ 50 % silt, ~ 50% medium plasticity clay, very soft.	
14		0.2		CL	(13.6 to 15.2) Silty CLAY, reddish-brown with gray mottling, moist, ~ 20% silt and very fine sand, ~ 80% medium plasticity clay, soft.	
16		0.2		CL	(15.2 to 17.5) CLAY, gray, moist, low plasticity, friable, a few iron nodules, firm.	
18						
20						
22						
24						
26						
28						
30						

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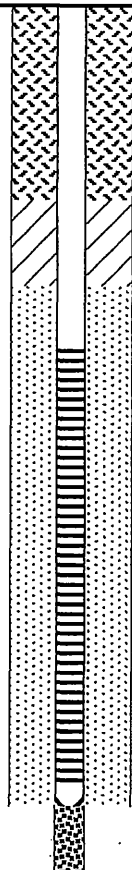
Well Materials

(0.0 to 6.0) Casing, 2" sch. 40 PVC
(6.0 to 15.5) Screen, 2" sch. 40 PVC, 0.01 slot
(15.5 to 16.0) End Cap

Annular Materials

(0.0 to 3.0) Portland Cement with 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 16.0) Sand, 20/40 silica

2" borehole caved in from 16-17.5'

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: OMW21			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/21/07		Borehole Diameter (in.): 8.25	
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 20	
PBW Project No. 1352				Field Supervisor: Tim Jennings, PG		Northing: 13555272.78	
				Drilling Method: Hollow Stem Auger		Easting: 3154248.25	
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 2.4	
						TOC Elev. (ft MSL) 5.73	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		0.0	5/5	CL	(0.0 to 1.4) Sandy CLAY, dark brown, moist, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clays.		
2		0.0		CL	(1.4 to 10.0) Silty CLAY, reddish-brown, moist, medium plasticity, firm to soft, reddish-brown with gray mottling below 4 feet, becomes gray with reddish-brown mottling below 5.7 feet, wet below 8.2 feet.		
4		0.0					
6		0.0					
8		0.0	4/5	CL	(10.0 to 18.8) Sandy, silty, CLAY, gray, wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, a few shell fragments, very soft. Shell fragments and sand content increasing by 15 feet, light gray, ~ 10-20% shell fragments, ~ 30-40% fine to medium-grained sand, ~ 50-60% medium plasticity clay. Sand content decreasing at 17.5 feet, grayish brown, ~ 5% oyster fragments, ~ 10% very fine-grained sand, ~ 85% medium plasticity clay, firm, base of saturation between 16.3 and 17.5 feet.		
10		0.0					
12		0.0					
14		0.0					
16		0.1	1.25/2.5	CL	(18.8 to 20.0) Silty CLAY, gray, moist, ~ 40-50% silt, ~ 50-60% low plasticity clay, firm.		
18		0.1	2.5/2.5				
20				CL			
22							
24							
26							
28							
30							

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Well Materials

(0.0 to 8.0) Casing, 2" sch. 40 PVC
(8.0 to 18) Screen, 2" sch. 40 PVC, 0.01 slot
(18 to 18.5) End Cap

Annular Materials

(0.0 to 4.5) Portland Cement with 5% bentonite gel
(4.5 to 6.5) Bentonite chips, 3/8"
(6.5 to 18.5) Sand, 20/40 silica

2" borehole caved in from 18.5-20"

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists			Log of Boring: SA4MW22			
Gulfco Marine Maintenance Superfund Site Freeport, TX PBW Project No. 1352			Completion Date:	05/30/07	Borehole Diameter (in.):	8.25
			Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	15
			Field Supervisor:	Len Mason, PG	Northing:	13553934.09
			Drilling Method:	Hollow Stem Auger	Easting:	3154726.12
			Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	5.5
					TOC Elev. (ft. MSL)	7.79
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description	
0		0.4	4.9/5	SC-SW	(0.0-3.1) Silty clayey SAND, reddish-brown, dry, ~ 5-10% low plasticity clay, mostly fine-grained sand with some medium-grained, some root material, subrounded, loose, clay content increasing at 2.2 feet to ~ 20-30%, some gravel and shell fragments, becoming slightly moist, decayed plant material at 3.0 to 3.1 feet.	
2				SM	(3.1 to 4.4) Clayey silty SAND, grayish-brown, slightly moist, ~ 10% clay, ~ 30% silt, ~ 60% very fine-grained, subrounded sand.	
4				CH	(4.4 to 5.0) CLAY, dark gray to grayish-black, dry slightly moist, medium plasticity, firm.	
6		0.3	5/5	SM/SC	(5.0 to 8.1) Clayey silty SAND, grayish-brown, moist, ~ 30% clay and silt, ~ 70% subrounded fine-grained sand, some clay lenses throughout, becoming saturated at 6 feet, increasingly clayey at 7.1 feet.	
8						
10						
12		0.6	4.9/5	CH	(8.1 to 15.0) Slightly silty CLAY, reddish-brown with some gray, very moist, high plasticity clay, soft becomes mostly gray with some reddish brown at 12 feet, some decayed vegetation.	
14						
16						
18		0.3				
20						
22						
24		0.6				
26						
28						
30						

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Well Materials

(0.0 to 4.5) Casing, 2" sch. 40 PVC
(4.5 to 14.5) Screen, 2" sch. 40 PVC, 0.01 slot
(14.5 to 15.0) End Cap

Annular Materials

(0.0 to 2.0) Portland Cement with 5% bentonite gel
(2.0 to 4.0) Bentonite chips, 3/8"
(4.0 to 15.0) Sand, 20/40 silica

Log of Boring: NC2B23B

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	05/31/07	Borehole Diameter (in.):	12/8.25
Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	40
Field Supervisor:	Tim Jennings, PG	Northing:	13554659.58
Drilling Method:	Hollow Stem Auger	Easting:	3154227.19
Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	2.0
		TOC Elev. (ft MSL)	2.37

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.0	3/5	CL	(0.0 to 0.7) Sandy CLAY, dark gray, wet, ~ 10% fine sand, ~ 90% medium plasticity clay, soft, abundant roots.
2				CL	(0.7 to 12.6) Sandy CLAY with silt, reddish-brown with gray mottling, moist to locally wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, firm and locally friable, gray mottling increasing below 4.5 feet, brown organic matter from 8 to 8.5 feet, no odor, becoming wet at 10 feet, a few small sand lenses from 12 to 12.6 feet.
4					
6					
8					
10				CL/SP	(12.6 to 14.1) Sandy silty CLAY and SAND, gray, wet, ~ 20-30% fine-grained sand, ~ 20-30% silt, ~ 50% medium plasticity, a few oyster shells thin (< 0.1") sand interbeds.
12					
14				CL	(14.1 to 15.0) Silty CLAY, reddish-brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, firm.
16				CL	(15.0 to 17.3) Silty sandy CLAY, gray, moist to locally wet, ~ 10-15% very fine-grained sand and silt, ~ 85-90% medium plasticity clay, very soft, very silty (wet at 15 to 15.7 feet and at 16.3 feet).
18				CL	(17.3 to 23.1) Silty CLAY, greenish-gray (olive), moist, < 10% silt, ~ 90% medium plasticity clay, stiff, zone of carbonate nodules at 21.5 and 22.2 feet.
20		0.0	5/5	CL	(23.1 to 26.4) Silty CLAY, reddish brown with gray mottling, moist, ~ 20-30% silt, ~ 70-80% medium plasticity clay, soft and friable.
22				CL	(26.4 to 35.3) Silty sandy CLAY greenish gray with brown mottling, moist, ~ 10-20% silt, ~ 5% fine-grained sand, ~ 80-90% medium plasticity clay, very firm, locally fractured, ~ 2-inch thick lens of poorly graded, fine-grained, gray sand at 27.8 to 28 feet, becoming brown to reddish-brown with gray mottling below 30 feet, abundant carbonate nodules locally from 30 to 32 feet.
24					
26					
28					
30				CL	(35.3 to 40.0) CLAY, reddish-brown with gray mottling, moist, medium plasticity, very stiff, fat clay.
32					
34				CH	<i>Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 15.0 foot</i>
36					
38					
40					

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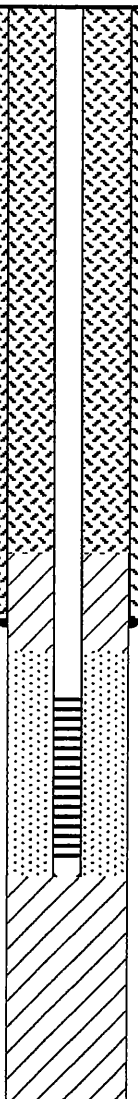
Well Materials

(0.0 to 15.0) Surface Casing, 8" sch. 40 PVC

Annular Materials

(15.0 to 40.0) Portland Cement with 5% bentonite gel

Lithologic description for 0 to 15 foot depth interval from NC2MW28 boring

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: ND4MW24B			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	05/29/07	Borehole Diameter (in.):	12/8.25
				Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	34
PBW Project No. 1352				Field Supervisor:	Len Mason, PG	Northing:	13554569.19
				Drilling Method:	Hollow Stem Auger	Easting:	3154749.48
				Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	3.5
						TOC Elev. (ft MSL)	5.7
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0				CL	(0.0 to 0.2) Silty SAND, light brown, moist, very fine-grained sand, soft.		
2				CL	(0.2 to 0.6) Sandy CLAY, dark brown, moist, ~ 20% very fine-grained sand, ~ 80% medium plasticity clay, slightly firm.		
4				CL	(0.6 to 2.0) Sandy CLAY, dark brown, becomes black below 1.5 feet.		
6				CL	(2.0 to 4.2) Sandy CLAY, locally black and dark reddish-brown, becomes highly plastic below ~ 3.0.		
8				CL	(4.2 to 8.2) Sandy CLAY as above, reddish-brown, moist, wet below 5.9 feet, with thin sand interbeds locally.		
10				CL	(8.2 to 10.4) Sandy CLAY, brown, wet, ~ 40% very fine-grained sand, ~ 60% highly plastic clay, soft.		
12				SP	(10.4 to 15.6) Poorly graded SAND with clayey sand, brown, wet, ~ 80% fine-grained sand, ~ 20% high plasticity clay, very soft.		
14				CL/SP	(15.6 to 17.0) Poorly graded SAND and sandy CLAY, brown, wet, ~ 50% very fine-grained sand, ~ 50% high plasticity clay, very soft.		
16				CH	(17.0 to 19.0) Sandy CLAY, brown to grayish brown, wet, <5% fine-grained sand, ~95% high plasticity CLAY, soft.		
18		1.3		CL	(19.0 to 20.5) Silty CLAY with some very fine-grained sand, gray to brownish-gray, wet, low to medium plasticity, soft.		
20		0.8		4/5	SM	(20.5 to 22.5) Silty SAND, brown to brownish-gray, wet, sand is fine-grained with some medium sized grains, loose.	
22		0.8	CH	(22.5 to 24.0) Grades into a silty CLAY with trace sand, brown to gray wet, high plasticity, soft.			
24		0.3	5/5	CH	(24.0 to 34.0) Slightly silty CLAY with some trace sand, brown to gray, wet, high plasticity, becoming slightly firm to stiff at 29 feet.		
26		0.1					
28		0.1					
30		0.3					
32		0.4			4/5		
34					Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 19.0 foot depth interval).		
36							
38							
40							

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664

Well Materials

(0.0 to 19.0) Surface Casing, 8" sch. 40 PVC
(0.0 to 21.5) Casing, 2" sch. 40 PVC
(21.5 to 26.5) Screen, 2" sch. 40 PVC, 0.01 slot
(26.5 to 27.0) End Cap

Lithologic description for 0 to 19 foot depth interval from ND4W03 boring

Annular Materials

(0.0 to 17.0) Portland Cement with 5% bentonite gel
(17.0 to 20.0) Bentonite chips, 3/8"
(20.0 to 27.0) Sand, 20/40 silica
(27.0 to 34.0) coated bentonite pellets

Log of Boring: NG3MW25B

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

PBW Project No. 1352

Completion Date:	05/30/07	Borehole Diameter (in.):	12/8.25
Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	35
Field Supervisor:	Tim Jennings, PG	Northing:	13555045.25
Drilling Method:	Hollow Stem Auger	Easting:	3154968.84
Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	2.2
		TOC Elev. (ft MSL)	4.91

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				SP	(0.0 to 0.4) Clayey SAND, brown, moist, ~ 20% low plasticity fines, 80% fine to medium-grained sand, soft.
2				CL	(0.4 to 7.5) Sandy CLAY, gray 0.4 - 1.4 feet becoming reddish brown with gray mottling below, moist, ~ 10-20% very fine to fine-grained sand, ~ 80-90% medium plasticity clays, firm to soft, few oxidized iron nodules, becomes saturated below 4 feet.
4				CL	
6				SP	(7.5 to 12.0) Silty clayey SAND, brown, wet, ~ 20-50% low plasticity fines, ~ 70-80% very fine to fine-grained sand, very soft, increasing clay content below 11 feet, grades into sandy clay at 12 feet.
8				CL	
10				CL	(12.0 to 16.3) Sandy CLAY (CL), grayish brown, wet, ~10-20% fine-grained sand, ~ 80% medium plasticity clay, very soft becomes reddish-brown at 15 feet.
12				SP	
14				CL	
16				SP	(16.3 to 17.5) SAND, poorly graded, brown to gray, wet, sand is fine to medium-grained, poorly graded, with abundant shell fragments (~ 10%), very soft.
18				CL	(17.5 to 18.4) Sandy CLAY with SAND, brown, wet, ~ 90% medium plasticity clay, with ~ 10% fine-grained sand as thin interbeds.
20				SP	(18.4 to 19.0) SAND with shell fragments.
22				CL	(19.0 to 19.6) CLAY, brown, wet, medium plasticity, soft, with ~ 5-10% sand lenses.
24				SP	(19.6 to 21.1) SAND, brown, wet, poorly graded, fine-grained, soft.
26				CL	(21.1 to 22.7) Interbedded CLAY and SAND, brown, wet, ~ 50% poorly graded, fine-grained sand interbeds, ~ 50% medium plasticity clay, very soft.
28				SP	
30				CL	(22.7 to 32.0) SAND, brown, wet (flowing), fine-grained, ~ 30% medium plasticity clay from 28.5 to 29 feet.
32				CL	
34				CL	(32.0 to 35.0) Silty CLAY, brown with gray mottling, moist, ~ 90% medium plasticity clay, very stiff.
36					
38					
40					

Note: Portland Cement with 5% bentonite gel placed outside of the surface casing (0.0 to 15.0 foot depth interval).

PBW

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Well Materials

(0.0 to 15.0) Surface Casing, 8" sch. 40 PVC
(0.0 to 17.0) Casing, 2" sch. 40 PVC
(17.0 to 27.0) Screen, 2" sch. 40 PVC, 0.01 slot
(27.0 to 27.5) End Cap

Annular Materials

(0.0 to 13.5) Portland Cement with 5% bentonite gel
(13.5 to 15.5) Bentonite chips, 3/8"
(15.5 to 27.5) Sand, 20/40 silica

Lithologic description for 0 to 17 foot depth interval from NG3MW19, borehole caved in from 27.5 to 35 feet.

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: OB26B			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	05/30/07	Borehole Diameter (in.):	8.25
				Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	40
PBW Project No. 1352				Field Supervisor:	Tim Jennings, PG	Northing:	13554963.98
				Drilling Method:	Hollow Stem Auger	Easting:	3154008.4
				Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	1.6
						TOC Elev. (ft MSL)	NA
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		0.0	3/3	CL	(0.0 to 0.8) Silty, sandy, CLAY, dark gray, wet, ~ 20% silt and very fine-grained sand, ~ 80% medium plasticity clay, soft, abundant roots abundant organic matter.		
2				CL	(0.8 to 7.5) Sandy CLAY, reddish-brown with gray mottling, moist, ~ 10% fine sand, ~ 90% medium plasticity clay, firm, few oxidized iron nodules.		
4					(7.5 to 10.0) Sandy CLAY, gray with reddish-brown mottling, moist, ~ 10-20% fine-grained sand, ~ 80% medium plasticity clay, firm to soft.		
6				CL	(10.0 to 12.4) Silty CLAY, reddish brown, wet, < 20% low plasticity silt, > 80% high plasticity clay, soft, a few small carbonate concretions		
8				CL	(12.4 to 13.6) Silty CLAY, gray, wet, ~ 50 % silt, ~ 50% medium plasticity clay, very soft.		
10				CL	(13.6 to 15.2) Silty CLAY, reddish-brown with gray mottling, moist, ~ 20% silt and very fine-grained sand, ~ 80% medium plasticity clay, soft.		
12				CL	(15.2 to 17.0) CLAY, gray, moist, low plasticity, friable, a few iron nodules, firm.		
14				CL	(17.0 to 20.2) Silty CLAY, gray with brown mottling, moist, ~ 10-20% silt decreasing with depth, ~ 80-90% medium plasticity clay, very firm, few carbonaceous nodules.		
16				CL	(20.2 to 20.6) Clayey SAND, gray, moist, ~ 40% low plasticity clay, ~ 60% fine-grained sand, firm.		
18			5/5	CL	(20.6 to 22.9) Silty CLAY, gray with brown mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, very firm, a few carbonate nodules.		
20				CL	(22.9 to 25.8) Silty CLAY, reddish brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, < 5% carbonate nodules and seams, locally fractured, very stiff.		
22			5/5	CL	(25.8 to 40.0) Silty CLAY, greenish-gray with brown mottling, moist, ~ 10% silt, ~ 90% medium plasticity clay, very firm to stiff, few carbonate nodules, reddish brown below 34 feet, increase in silt from 36.5 to 37 feet, ~ 50% silt, moist.		
24				CL			
26			5/5	CL			
28				CL			
30			5/5	CL			
32				CL			
34			5/5	CL			
36				CL			
38			5/5	CL			
40				CL			

Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 17.0 foot depth interval).

PBW

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Well Materials

(0.0 to 17.0) Surface Casing, 8" sch. 40 PVC

Annular Materials

(17.0 to 40.0) Portland Cement with 5% bentonite gel

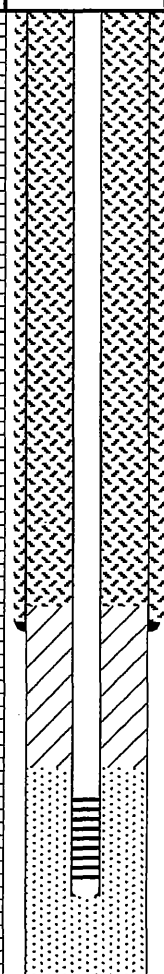
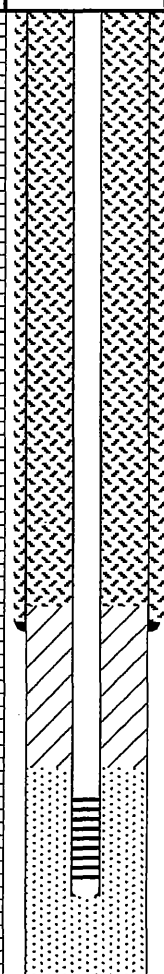
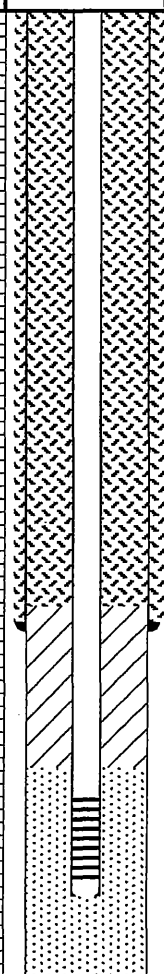
Lithologic description for 0 to 17 foot depth interval logged from OMW20 boring

Log of Boring: OMW27B

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	05/29/07	Borehole Diameter (in.):	12/8.25
Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	30
Field Supervisor:	Tim Jennings, PG	Northing:	13555282.97
Drilling Method:	Hollow Stem Auger	Easting:	3154239.25
Sampling Method:	5 ft split spoon	Ground Elev. (ft. MSL):	2.8
		TOC Elev. (ft MSL)	5.45

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		0.1	4/5	CL	(0.0 to 1.4) Sandy, CLAY, dark brown, moist, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clays.
2				CL	(1.4 to 10.0) Silty CLAY, reddish-brown, moist, medium plasticity clay, firm to soft, reddish-brown with gray mottling below 4 feet, becomes gray with reddish-brown mottling below 5.7 feet, wet below 8.2 feet.
4					
6					
8					
10				CL	(10.0 to 18.8) Sandy silty CLAY, gray, wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, a few shell fragments, very soft, shell fragments and sand content increasing by 15 feet, light gray, ~ 10-20% shell fragments, ~ 30-40% fine to medium-grained sand, ~ 50-60% medium plasticity clay, sand content decreasing at 17.5 feet, grayish brown, ~ 5% oyster fragments, ~ 10% very fine-grained sand, ~ 85% medium plasticity clay, firm.
12					
14					
16					
18				CL/SP	(18.8 to 19.0) Silty CLAY, gray, moist, ~ 40-50% silt, ~ 50-60% low plasticity clay, firm.
20					
22		0.0	4/5	CL	(19.0 to 22.4) Sandy, silty, CLAY with poorly graded SAND, brown, wet, ~ 30-40% very fine-grained sand and silt, ~ 60-70% medium plasticity clay, soft.
24				SP	(22.4 to 24.0) Silty CLAY, reddish-brown with gray mottling, moist, medium plasticity, a few carbonate nodules, very firm.
26				CL	(24.0 to 26.9) SAND, brown, wet, poorly graded, fine-grained, soft.
28					(26.9 to 30.0) CLAY, reddish brown with gray mottling to 27.8, gray below 27.8, moist, medium plasticity, very firm.
30		0.2	4.5/5		<i>Note: Portland Cement with 5% bentonite gel placed in the annular space outside of the surface casing (0.0 to 19.0 foot depth interval).</i>
32					
34					
36					
38					
40					

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Well Materials

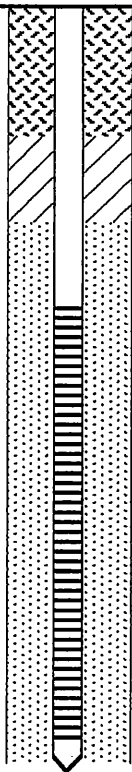
(0.0 to 19.0) Surface Casing, 8" sch. 40 PVC
(0.0 to 24.5) Casing, 2" sch. 40 PVC
(24.5 to 27) Screen, 2" sch. 40 PVC, 0.01 slot
(27.0 to 27.5) End Cap
Lithologic description for 0 to 19 foot depth interval logged from OMW21 boring

Annular Materials

(0.0 to 18.5) Portland Cement with 5% bentonite gel
(18.5 to 23.5) Bentonite chips, 3/8"
(23.5 to 30.0) Sand, 20/40 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: NC2MW28			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date: 05/25/07		Borehole Diameter (in.): 8.25	
				Drilling Company: Master Monitoring Services, Inc.		Total Depth (ft): 15	
PBW Project No. 1352				Field Supervisor: Tim Jennings, PG		Northing: 13554651.88	
				Drilling Method: Hollow Stem Auger		Easting: 3154233.16	
				Sampling Method: 5 ft. split spoon		Ground Elev. (ft. MSL): 1.8	
						TOC Elev. (ft MSL) 4.76	
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		0.2	5/5	CL	(0.0 to 0.7) Sandy CLAY, dark gray, wet, ~ 10% fine-grained sand, ~ 90% medium plasticity clay, soft, abundant roots.		
2		0.0		CL	(0.7 to 12.6) Sandy CLAY with silt, reddish-brown with gray mottling, moist to locally wet, ~ 10-20% very fine-grained sand, ~ 80-90% medium plasticity clay, firm and locally friable, gray mottling increasing below 4.5 feet, brown organic matter from 8 to 8.8 feet, no odor, becoming wet at 10 feet, a few thin sand lenses from 12 to 12.6 feet.		
4		0.0					
6		0.0					
8		0.0					
10		0.0	5/5	CL/SP	(12.6 to 14.1) Sandy silty CLAY, gray, wet, ~ 20-30% fine-grained sand, ~ 20-30% silt, ~ 50% medium plasticity clay, very soft, few oyster shells, a few thin (< 0.1") sand interbeds.		
12		0.0			(14.1 to 15.0) Silty CLAY, reddish-brown with gray mottling, moist, ~ 10-20% silt, ~ 80-90% medium plasticity clay, firm.		
14		0.0		CL			
16							
18							
20							
22							
24							
26							
28							
30							

PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446	Well Materials (0.0 to 5.0) Casing, 2" sch. 40 PVC (5.0 to 14.5) Screen, 2" sch. 40 PVC, 0.01 slot (14.5 to 15.0) End Cap	Annular Materials (0.0 to 1.0) Portland Cement with 5% bentonite gel (1.0 to 4.0) Bentonite chips, 3/8" (4.0 to 15.0) Sand, 20/40 silica
	This boring log should not be used separately from the original report.	

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists				Log of Boring: ND3MW29			
Gulfco Marine Maintenance Superfund Site Freeport, TX				Completion Date:	05/31/07	Borehole Diameter (in.):	8.25
				Drilling Company:	Master Monitoring Services, Inc.	Total Depth (ft):	17.5
PBW Project No. 1352				Field Supervisor:	Tim Jennings, PG	Northing:	13554733.7
				Drilling Method:	Hollow Stem Auger	Easting:	3154525.86
				Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	2.9
						TOC Elev. (ft MSL)	5.33
Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description		
0		4.2	4.5/5	CL	(0.0 to 1.8) Sandy CLAY with gravel, brown with gray mottling, locally moist, ~ 20% fine-grained sand, ~ 80% medium plasticity clay, < 5% gravel and shell fragments, soft.		
2		117		CL	(1.8 to 7.1) Silty CLAY, gray to dark gray, wet from 1.8 to 2.6 feet, moist below 2.6 feet, soft to firm, decaying marsh type vegetation from 1.8 to 2.6 feet.		
4		249	4.5/5	CL			
6		276		CL/SM ML	(7.1 to 12.5) Sandy silty CLAY, brown, wet, ~ 10-20% fine-grained sand, ~ 30-80% silt, ~ 30-60% medium plasticity clay, soft, wood fragments and black staining from 8.3 to 8.6 feet, moderate creosote like odor, local black staining from 10.5 to 12 feet.		
8		162	3/5	CL/SM ML			
10		585		SP/SM	(12.5 to 16.6) Poorly graded SAND and silty SAND, brown, wet, ~ 10-30% silt, wet locally from 12.5 to 13.5 feet and wet below 15.4 feet, ~ 70 -100% very fine to fine-grained sand, locally abundant NAPL visible within sand from 12.5 to 13.5 feet and slight to moderate NAPL (sheen) visible within sand from 15 to 16.4 feet, moderate organic odor, soil sample (SB-MW29-01) collected from 12.5 to 13.5 feet.		
14		884	2.5/2.5	SP/SM			
16		527		CL	(16.6 to 17.5) Silty CLAY, reddish-brown, wet, ~ 10-20% silt, ~ 80-90% medium plasticity clay, very soft, no NAPL staining or sheen observed within clay.		
18							
20							
22							
24							
26							
28							
30							

PBW

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Well Materials

(0.0 to 7.0) Casing, 2" sch. 40 PVC
(7.0 to 17.0) Screen, 2" sch. 40 PVC, 0.01 slot
(17.0 to 17.5) End Cap

Annular Materials

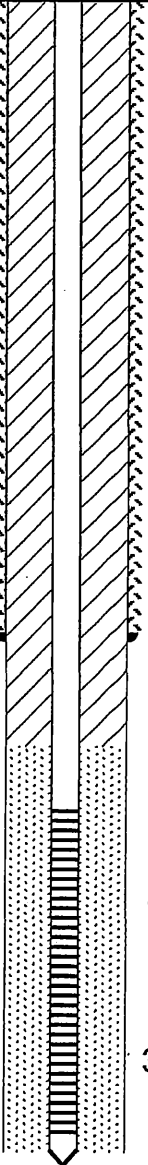
(0.0 to 3.0) Portland Cement with 5% bentonite gel
(3.0 to 5.0) Bentonite chips, 3/8"
(5.0 to 17.5) Sand, 20/40 silica

Log of Boring: NE3MW30B

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	11/26/07	Borehole Diameter (in.):	12.5/8.25
Drilling Company:	Universal Drilling Services	Total Depth (ft):	35.5
Field Supervisor:	Len Mason, PG	Northing:	13554690.78
Drilling Method:	Hollow Stem Auger	Easting:	3154741.85
Sampling Method:	5 ft core barrel	Ground Elev. (ft. MSL):	3.5
		TOC Elev. (ft MSL)	6.70

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0		246	4.7/5	CL	(0.0-0.9) Sandy, silty, CLAY, brown with some orange mottling, moist, ~ 10-15% very fine sand, ~ 30% silt, soft, medium to low plasticity.
2				CL	(0.9-2.8) CLAY, brown, moist, medium plasticity, trace wood fragment at 1.8 feet.
4				CL	(2.8-8.0) Sandy CLAY, gray, moist to wet at 4.5 feet, some (~ 10%) sandy lenses, soft, medium-high plasticity, gray with some brown mottling below 5 feet.
6			4/5	CL	(8.0-12.5) Sandy CLAY, brown with gray mottling to 10 feet, brown below 10 feet, moist, ~ 20-30% fine sand, very soft, medium plasticity, becomes wet below 11.2 feet.
8				CL	
10			5/5	CL	
12				CL	
14			2.5/3	SM	(12.5-17.0) Silty SAND, brown, wet, sand is very fine, ~ 20% silt, loose.
16				SM	
18			2/2	SM-SC	(17.0-18.0) Clayey, silty, SAND, brown with some gray, wet, ~ 10-15% gray clay, ~ 30% silt, sand is very fine, loose.
20				CL	(18.0-20.0) CLAY with some silty sand zones, brown, moist, soft, medium-high plasticity, becomes gray and firm at 19 feet.
22			2/5	SM	(20.0-25.0) Silty SAND, brown, wet, sand is very fine, loose, chemical odor, sheen observed, flowing sand.
24				SM	
26			2/2.5	CH	(25.0-25.5) Slightly sandy CLAY, gray, moist, ~ 5-10% very fine sand, soft, medium-high plasticity, chemical odor.
28				SC	(25.5-26.4) Slightly clayey SAND, brown and gray, wet, ~ 10% fine clay layers throughout, sand very fine, slight odor.
30			2/2.5	CH	(26.4-26.8) Sandy CLAY, brownish-gray, moist, high plasticity, soft to firm.
32				SM/SP	(26.8-27.5) Silty SAND with some shell material, gray, wet, sand is very fine, ~ 20% silt, chemical odor.
34			1/2.5	CL	(27.5-28.5) Sandy CLAY, gray, moist, ~ 20-30% fine sand, soft, high plasticity, chemical odor, wet gray sand layer with shell material from 28-28.2 feet.
36				CL	(29.5-34.1) SAND, brown to gray, wet, shell material throughout, fine to medium sand, subrounded to subangular, strong chemical odor, sheen throughout, locally abundant NAPL visible within sand from 33.9 to 34.1, soil sample (SBMW30-01) collected from 33.6-34.1 feet.
38			2.5/2.5	SW	(34.1-35.5) CLAY, gray, moist, high plasticity, firm, fat clay, slight odor, no NAPL staining or sheen observed within clay.
40				CL	

PBW

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Round Rock, TX 78664

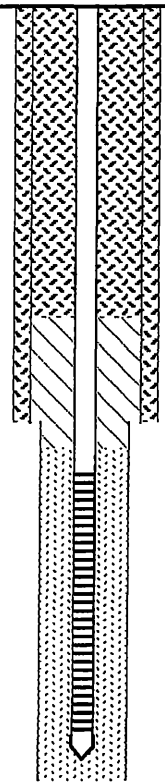
Well Materials

(0.0 to 19.5) Surface Casing, 12" sch. 40 PVC
(0.0 to 25.0) Casing, 2" sch. 40 PVC
(25.0 to 35.0) Screen, 2" sch. 40 PVC, 0.01 slot
(35.0 to 35.5) End Cap

Annular Materials

(0.0 to 18.5) Portland Cement with 5% bentonite gel outside of surface casing
(0.0 to 23.0) Bentonite chips, 3/8" inside surface casing
(23.0 to 35.5) Sand, 16/30 silica

PASTOR, BEHLING & WHEELER, LLC Consulting Engineers and Scientists		Log of Boring: NE4MW31B			
Gulfco Marine Maintenance Superfund Site Freeport, TX		Completion Date:	06/13/08	Borehole Diameter (in.):	8.0/13.0
		Drilling Company:	Universal Drilling	Total Depth (ft):	45
PBW Project No. 1352		Field Supervisor:	Tim Jennings, P.G.	Northing:	3154903.18
		Drilling Method:	Hollow Stem Auger	Easting:	13554709.81
		Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	3.0
				TOC Elev. (ft MSL)	6.01

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				RD BASE	(0.0-0.8) Caliche road base.
0.2			5/5	CL/CH	(0.8-6.2) Sandy CLAY, gray with brown mottling, moist, ~5 to 10% fine-grained sand, ~ 90 to 95% medium to high plasticity clays.
0.3					
0.4			5/5	CH	(6.2-8.5) Silty sandy CLAY, brown with gray mottling, moist to locally wet, ~5 to 10% fine-grained sand, ~15 to 20% silt, ~70 to 80% high plasticity clay, soft.
0.2				ML	(8.5-9.4) Clayey SILT, grayish-brown, wet, ~30 to 40% high plasticity clay, ~60 to 70% silt, soft.
10				SM	(9.4-11.3) Silty SAND, grayish-brown to brown, wet, ~10 to 30% silt, ~70 to 90% fine-grained sand, soft.
0.2			5/5	ML	(11.3-13.4) Sandy clayey SILT, brown, wet, ~10 to 20% high plasticity clay, ~20 to 30% fine-grained sand, ~50 to 70% silt, very soft.
0.2				CH	(13.4-16.0) Sandy CLAY, grayish-brown, wet, ~10 to 20% very fine-grained sand, ~80 to 90% high plasticity clay, very soft.
0.2					
15			1/5	NR	(16.0-20.0) NO RECOVERY.
20					
0.2			2.5/5	SP	(20.0-30.0) SAND, poorly graded, brown, wet, very fine-grained to medium-grained sand with ~5% shell fragments at 20.0 to 21.5, very fine-grained to fine-grained sand with trace shell fragments at 21.5 to 30.0, firm, trace gray clay.
25			2.5/5		
30					
0/5				NR	(30.0-40.0) NO RECOVERY in flowing sands.
35			0/5		
40					
0.25/5				CL	(40.0-45.0) Sandy CLAY in shoe of core barrell, only recovered 0.2', drilled like clay.
45					

PBW Pastor, Behling & Wheeler, LLC 2201 Double Creek Dr., Suite 4004 Round Rock, TX 78664 Tel (512) 671-3434 Fax (512) 671-3446		Well Materials (0.0-16.0) Surface Casing, 10" sch. 40 PVC (0.0-18.0) Casing, 2" sch. 40 PVC (18.0-28.0) Screen, 2" sch. 40 PVC, 0.01" slot (28.0-28.3) End Cap	Annular Materials (0.0-12.0) Cement/Bentonite slurry, inside surf. casing (0.0-16.0) Cement/Bentonite slurry, outside surf. casing (12.0-17.0) 3/8" bentonite chips, inside surf. casing (17.0-29.7) 16/30 silica sand
This boring log should not be used separately from the original report.			

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NE4MW32C

Gulfc0 Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	06/13/08	Borehole Diameter (in.):	8.0/13.0/17.5
Drilling Company:	Universal Drilling	Total Depth (ft):	80
Field Supervisor:	Tim Jennings, P.G.	Northing:	3154802.32
Drilling Method:	Hollow Stem Auger	Easting:	13554653.07
Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	3.2
		TOC Elev. (ft MSL)	6.31

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				RD BASE	(0.0-0.5) Caliche road base, plugged sampler, no recovery.
5		0.5	0.25/5	CL	(0.5-5.0) Sandy CLAY.
10		0.1	0.5/5	ML	(5.0-10.0) Sandy SILT, brown, wet, ~20 to 30% fine-grained sand, ~70 to 80% low plasticity silt.
15		0.1	5/5	SM	(10.0-14.4) Silty clayey SAND, brown, wet, ~10 to 20% medium plasticity clay in thin (<0.5") interbeds, 20 to 30% low plasticity silt, ~50 to 80% fine-grained sand, soft.
20		0.1	5/5	SP	(14.4-19.2) SAND, poorly graded, brown, wet, very fine-grained to fine-grained sand, soft; black, natural organic material locally.
25		0.6	5/5	CL	(19.2-20.5) CLAY, grayish-brown, wet, medium plasticity clay, locally bedded, soft.
30		44.1	5/5	CL	(20.5-26.2) Sandy CLAY, grayish-brown, wet, ~20 to 30% fine-grained sand, ~70 to 80% medium plasticity clay, very soft, barrel filled with cuttings and slough from inside casing--resulted in poor recovery.
35		14.2	2.5/5	SP	(26.2-29.0) SAND, grades to poorly graded sand, brown, wet, very fine-grained to fine-grained sand, very soft.
40		0	3/5	SP	(29.0-35.0) Poorly graded SAND and clayey SAND, wet, ~10% high plasticity clay in sand locally, ~90% fine-grained to medium-grained sand, shell fragments throughout.
		0	2/5	SP	(35.0-40.2) SAND, poorly graded, brown, wet, very fine-grained to fine-grained sand, compact, gray below 39.0.
		1		CH	(40.2-41.7) CLAY, gray, wet, high plasticity clay, soft.

PBW

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Well Materials

(0.0-20.0) Surface Casing, 14" sch. 40 PVC
(0.0-48.8) Surface Casing, 10" sch. 40 PVC
(0.0-64.0) Casing, 2" sch. 40 PVC
(64.0-74.0) Screen, 2" sch. 40 PVC, 0.01" slot
(74.0-74.3) End Cap

Annular Materials

(0.0-10.0) Bentonite chips, inside 10" casing
(0.0-20.0) Cement/Bentonite slurry, outside 14" casing
(0.0-48.8) Cement/Bentonite slurry, outside 10" casing
(10.0-58.3) Cement/Bentonite slurry, inside 10" casing
(58.3-62.0) 3/8" bentonite chips
(62.0-76.0) 16/30 silica sand
(76.0-80.0) Coated bentonite pellets

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NE4MW32C

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	06/13/08	Borehole Diameter (in.):	8.0/13.0/17.5
Drilling Company:	Universal Drilling	Total Depth (ft):	80
Field Supervisor:	Tim Jennings, P.G.	Northing:	3154802.32
Drilling Method:	Hollow Stem Auger	Easting:	13554653.07
Sampling Method:	5 ft. split spoon	Ground Elev. (ft. MSL):	3.2
		TOC Elev. (ft. MSL)	6.31

PBW Project No. 1352

Depth (ft)	Well Construction Diagram	PID (ppm-v)	Recovery (#/ft)	USCS	Lithologic Description
45		9.2	3/5	SP	(41.7-45.8) Poorly graded SAND and clayey SAND, gray, wet, ~20% high plasticity clay, ~80% fine-grained sand.
				CH	(45.8-47.1) CLAY, gray, wet, high plasticity clay.
		0.9	5/5	CB	(47.1-47.4) SAND, poorly graded, gray, wet, fine-grained to medium-grained sand interbedded in clay.
50					(47.4-47.7) CLAY, gray, wet.
			3/3	CL	(47.7-55.0) Sandy CLAY, reddish-brown with gray mottling, ~5 to 10% very fine-grained sand, ~90 to 95% medium plasticity clay, a few small shell fragments near top, very stiff and dense.
55			2/2		
			2/2	CH	(55.0-60.0) Silty CLAY, gray with local red mottling, moist, ~5 to 10% silt as very thin interbeds and lenses, a few silt lenses and thin (<0.1') interbeds at 57.0 to 58.5.
60		0.1	3/3	CH	
				CH	(60.0-60.5) CLAY, gray, ~20 to 30% shell fragments.
65		0	5/5		
		0.2	5/5	CH	(60.5-72.7) CLAY, very dark gray, moist, high plasticity, clay with abundant natural organic material at 62.5 to 68.0, a few shell fragments.
70		0.5			
			5/5	SHELL	(72.7-73.0) SHELL layer, appears to contain some water.
75		0.3		CH	(73-73.8) CLAY, similar to the material at 60.5 to 72.7.
			5/5	CH	(73.8-80) CLAY, bluish-gray, moist, high plasticity clay with few shell fragments, very firm to stiff, thin silt bed at 77.7.
80		0.3			

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Well Materials

(0.0-20.0) Surface Casing, 14" sch. 40 PVC
(0.0-48.8) Surface Casing, 10" sch. 40 PVC
(0.0-64.0) Casing, 2" sch. 40 PVC
(64.0-74.0) Screen, 2" sch. 40 PVC, 0.01" slot
(74.0-74.3) End Cap

Annular Materials

(0.0-10.0) Bentonite chips, inside 10" casing
(0.0-20.0) Cement/Bentonite slurry, outside 14" casing
(0.0-48.8) Cement/Bentonite slurry, outside 10" casing
(10.0-58.3) Cement/Bentonite slurry, inside 10" casing
(58.3-62.0) 3/8" bentonite chips
(62.0-76.0) 16/30 silica sand
(76.0-80.0) Coated bentonite pellets

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NB4PZ01

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	22
Field Supervisor:	Len Mason, P.G.	Northing:	13554276.47
Drilling Method:	Direct Push	Easting:	3154459.85
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.3
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0			SC/SM	(0.0 to 0.7) Clayey silty SAND, brown, very fine-grained, subrounded, quartz, very low plasticity to uncohesive, dry.
2	0.5	3.1/4	CL	(0.7 to 13.1) CLAY, brown and gray, slightly mottled, soft, medium plasticity, slightly moist, becoming soft and moist below 5.4; becoming very soft at 6.6; becoming very moist to saturated at 8.0; becoming mostly greenish-gray with some brown, moist to very moist, saturated in areas at 9.0.
4	0.8			
6	0.8	3.6/4		
8	0.9			
10	0.9	3.8/4	ML	(13.1 to 18.9) Slightly sandy clayey SILT, brown, and greenish gray, very soft, uncohesive, saturated.
12	0.9			
14		3.7/4		
16	1.3			
18	1.6	4/4	CL	(18.9 to 22.0) CLAY, gray to olive gray, firm, medium plasticity, slightly moist to dry, trace gravel.
20	1.9			
22		2/2		
24	1.7			
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 9 - 19 ft.) was installed adjacent to this location.
The borehole was plugged with bentonite pellets.
This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NC3PZ02

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	28
Field Supervisor:	Len Mason, P.G.	Northing:	13554519.81
Drilling Method:	Direct Push	Easting:	3154398.52
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.9
		TOC Elev. (ft MSL):	----

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				
2	0.6	3.6/4		
4	0.9			
6	0.9	3.9/4		
8	1.2		CL	(0.0 to 14.6) Silty CLAY, reddish-brown to brown, soft, low plasticity, slightly moist; becoming gray and reddish-brown to brown, slightly mottled at 3.0; becoming greenish-gray and brown, slightly mottled, very soft at 8.0.
10	1.5	3.6/4		
12				
14		4/4		
16	0.6		ML	(14.6 to 15.9) Clayey SILT, brown and grayish-brown, saturated, very soft, uncohesive.
18	1	3.8/4		(15.9 to 17.0) CLAY, gray, medium plasticity, soft to firm, moist.
20	1.9			(17.0 to 19.3) Silty CLAY, brown and gray, very soft, uncohesive, very moist.
22	2	3.7/4	CL	(19.3 to 20.0) CLAY, gray, some greenish-gray, soft to firm, medium plasticity, slightly moist.
24	1.4			(20.0 to 22.5) Silty CLAY, brown and gray, very soft, uncohesive, very moist.
26	1.1	3.8/4		
28	1.7			
30				(22.5 to 28.0) CLAY, trace gravel, gray and olive-brown, mottled, reddish-brown at 26.7 to 27.6, firm, slightly moist to dry, medium plasticity.

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Comments:

A temporary piezometer (screened interval 12.5 - 22.5 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: ND1PZ03

Gulco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	18
Field Supervisor:	Len Mason, P.G.	Northing:	13554945.56
Drilling Method:	Direct Push	Easting:	3154263.8
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.2
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				(0.0 to 1.2) Slightly sandy, silty CLAY, brown; very fine-grained, subrounded, quartz sand; firm, medium plasticity, slightly moist.
2	6.2	2.9/4	CL	(1.2 to 15.7) CLAY, brown and gray, slightly mottled, soft to firm, medium plasticity, slightly moist, very moist at 4.0, some black staining at 10.2, saturated and very soft at 12.0.
4	10.5			
6	8.8	3.7/4		
8	25.2			
10	12.5	3.9/4		
12	44.7			
14	24.9	3.9/4		
16	17.9			
18	29.3	1/2		(15.7 to 18.0) CLAY, gray, firm, medium plasticity, dry to slightly moist.
20				
22				
24				
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 5.5 - 15.5 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: ND3PZ04

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/21/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	20
Field Supervisor:	Len Mason, P.G.	Northing:	13554698.81
Drilling Method:	Direct Push	Easting:	3154524.94
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.4
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0				(0.0 to 1.1) Slightly sandy CLAY, gray, some olive-brown; very fine-grained, subrounded sand; soft, low plasticity, slightly moist.
2	60.1	3/4	CL	(1.1 to 4.5) CLAY, gray, some olive-brown, soft to slightly firm, medium plasticity, slightly moist.
4				
6	167	2.9/4	CL/ML	(4.5 to 6.5) Silty CLAY to clayey SILT, brown and gray, mottled, very soft, low plasticity, very moist to saturated, slight odor.
8	181			
10	170			
12	304	3.5/4		
14	121		ML	(6.5 to 17.0) Sandy clayey SILT, brown; very fine-grained, poorly sorted, subrounded, quartz sand; uncohesive, saturated, odor.
16	166	3.9/4		
18	13			
20	28.1	3.8/4	CL	(17.0 to 20.0) CLAY, brown, some gray, very soft, medium plasticity, moist, odor, becoming greenish-gray, firm to medium plasticity, slightly moist to dry, trace iron nodules at 19.0.
22	8.1			
24				
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 7 - 17 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
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Log of Boring: NF1PZ05

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	08/01/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	18
Field Supervisor:	Tim Jennings, P.G.	Northing:	13555211
Drilling Method:	Direct Push	Easting:	3154490.84
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.2
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-γ)	Recovery (ft/ft)	USCS	Lithologic Description
0	3.1	1/4	CL	(0.0 to 6.2) Sandy CLAY, dark grayish-brown, moist, ~ 20% fine-grained sand, ~ 80% medium plasticity clay, firm.
2				
4	4.9	3/4	SC/SM	(6.2 to 8.0) Silty clayey SAND, brown, wet, ~ 50% medium plasticity fines, ~ 50% very fine to fine-grained sand, soft.
6	5.8			
8	4.8	4/4	CH	(8.0 to 9.7) Silty CLAY, gray to brown, wet, high plasticity, soft.
10	3.6		SM/SC	(9.7 to 12.0) Silty clayey SAND, brown, wet, ~ 20% to 30% high plasticity fines, ~ 70% to 80% very fine to fine-grained sand, soft.
12	1.3	4/4	CH	(12.0 to 13.4) Silty sandy CLAY, brown, wet, ~ 30% to 40% very fine-grained sand and silt, ~ 60% to 70% high plasticity clay, very soft.
14	1.2		SM/CH	(13.4 to 16.7) Silty SAND and CLAY, brown, wet, ~ 20% to 30% high plasticity fines (thin clay interbeds), ~ 70% to 80% very fine to fine-grained sand, soft.
16	1.3	2/2	CH/SP	(16.7 to 18.0) Interbedded CLAY and SAND, ~30% poorly graded sand as thin (< 0.1 inch) beds and ~ 70% high plasticity clay, top of first confining clay.
18				
20				
22				
24				
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 8 - 18 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: NF3PZ06

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/31/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	16
Field Supervisor:	Tim Jennings, P.G.	Northing:	13554991.77
Drilling Method:	Direct Push	Easting:	3154813.75
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	2.5
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0	2.6			
2	1.8	4/4		(0.0 to 4.8) Silty CLAY, dark brown to gray, moist, medium plasticity fines, abundant roots, firm.
4	2.3			
6		2/4	CL	
8	1.3			
10	2.7	4/4		(4.8 to 13.1) Silty sandy CLAY, brown, wet, ~ 30% to 40%, fine sand, ~ 60% to 70% medium plasticity fines, very soft.
12	4.5			
14	4.7	4/4	CH	(13.1 to 14.7) Silty CLAY, brown, moist, high plasticity fines, soft, first confining clay.
16			SW	(14.7 to 16.0) Well-graded SAND, brown, wet, very fine to medium-grained sand with shell fragments.
18				
20				
22				
24				
26				
28				
30				

PBW

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Comments:

A temporary piezometer (screened interval 3 - 13 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

Log of Boring: SA4PZ07

Gulfco Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/20/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	24
Field Supervisor:	Len Mason, P.G.	Northing:	13553911.84
Drilling Method:	Direct Push	Easting:	3154746.34
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	5.4
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0			SC	(0.0 to 1.5) Clayey SAND, brown with strong brown, plant material, loose, dry, trace gravel.
2	0.5	3/4	CL	(1.5 to 2.0) Silty CLAY, brown, reddish-brown, some black, slightly mottled, soft medium plasticity, organic material at base.
4	0.6		SM/SC	(2.0 to 4.1) Clayey silty SAND; brown, grayish-brown, and reddish-brown, trace mottling, very fine-grained, subrounded, poorly sorted sand, unconsolidated, some root material, slightly moist, partially decayed plant material at 4.0.
6	0.6	3.5/4	CL	(4.1 to 8.0) CLAY, gray, soft to firm, medium plasticity; becomes mottled gray, greenish gray, and reddish brown at 5.4; becomes very moist at 5.4; saturated, silty sand lens (< 0.1 feet) at 5.4.
8	0.6		SC/SM	(8.0 to 9.6) Clayey, silty SAND, grayish-brown, some reddish-brown, very fine-grained, subrounded, poorly sorted sand, unconsolidated, saturated, sharp basal contact.
10	0.8	3.9/4		
12	0.7			
14	0.6	3.9/4		
16	0.6		CL	(9.6 to 24.0) Silty CLAY, reddish-brown with some light greenish gray, slightly mottled, soft, medium plasticity, moist; becoming more greenish-gray with some reddish brown and trace black at 10.5; becoming reddish-brown at 14.9; becoming greenish-gray with local areas of reddish-brown, very soft, very moist at 16.0; becoming dry and firm at 22.6.
18	0.5	4/4		
20	0.7			
22	0.7	3.9/4		
24	1.1			
26				
28				
30				

PBW

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Tel (512) 671-3434 Fax (512) 671-3446

Comments:

A temporary piezometer (screened interval 12 - 22 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

PASTOR, BEHLING & WHEELER, LLC
Consulting Engineers and Scientists

Log of Boring: SD3PZ08

Gulfo Marine Maintenance
Superfund Site
Freeport, TX

Completion Date:	07/20/06	Borehole Diameter (in.):	2
Drilling Company:	Best Drilling Services, Inc.	Total Depth (ft):	28
Field Supervisor:	Len Mason, P.G.	Northing:	13554214.87
Drilling Method:	Direct Push	Easting:	3154926.63
Sampling Method:	4 ft split spoon	Ground Elev. (ft. MSL):	5.6
		TOC Elev. (ft MSL):	---

PBW Project No. 1352

Depth (ft)	PID (ppm-v)	Recovery (ft/ft)	USCS	Lithologic Description
0			Fill	(0.0 to 0.5) GRAVEL with sand.
2	1.1	3.5/4	CL	(0.5 to 2.4) CLAY, brown, greenish-gray and black, slightly mottled, soft, medium plasticity, slightly moist.
4	1.2		SM	(2.4 to 4.6) Silty SAND, light brown, sand is fine-grained, subrounded, poorly sorted, mostly quartz, unconsolidated, slightly moist, becoming silty clay near base.
6	1.9	4/4		
8	2		CL	(4.6 to 8.7) CLAY, dark gray to dark greenish-gray, some reddish-brown, slightly mottled, soft, medium plasticity, slightly moist, trace root material.
10	1.6	4/4		(8.7 to 9.8) Sandy silty CLAY, grayish-brown, soft, low plasticity, moist, some sand stringers, very thin, sand is very fine-grained and subrounded.
12	1.7			(9.8 to 11.5) CLAY, gray and strong brown, mottled, soft, medium plasticity, moist.
14	1.6	3.5/4	ML	(11.5 to 13.7) Clayey, sandy SILT, brown and brownish-gray, soft, unconsolidated, very moist to saturated, becoming saturated at 12.1.
16	1.5			
18	1.5	3.8/4		
20	1.2		ML/SC	(13.7 to 25.5) Slightly clayey, sandy SILT, brown, sand is very fine-grained, mostly quartz, unconsolidated, saturated, sand stringers throughout, slightly less saturated at 21.9.
22	1.1	3.7/4		
24	1.6			
26	1.6	4/4	CL	(25.5 to 28.0) CLAY, greenish-gray and brown, mottled, firm, medium to high plasticity, slightly moist.
28	1.1			
30				

PBW

Pastor, Behling & Wheeler, LLC
2201 Double Creek Dr., Suite 4004
Round Rock, TX 78664
Tel (512) 671-3434 Fax (512) 671-3446

Comments:

A temporary piezometer (screened interval 12 - 22 ft.) was installed adjacent to this location.

The borehole was plugged with bentonite pellets.

This boring log should not be used separately from the original report.

APPENDIX E
CPT PROFILES



CPT Data

Job Number 04.1908-0042

CPT Number NG3-CPT1

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

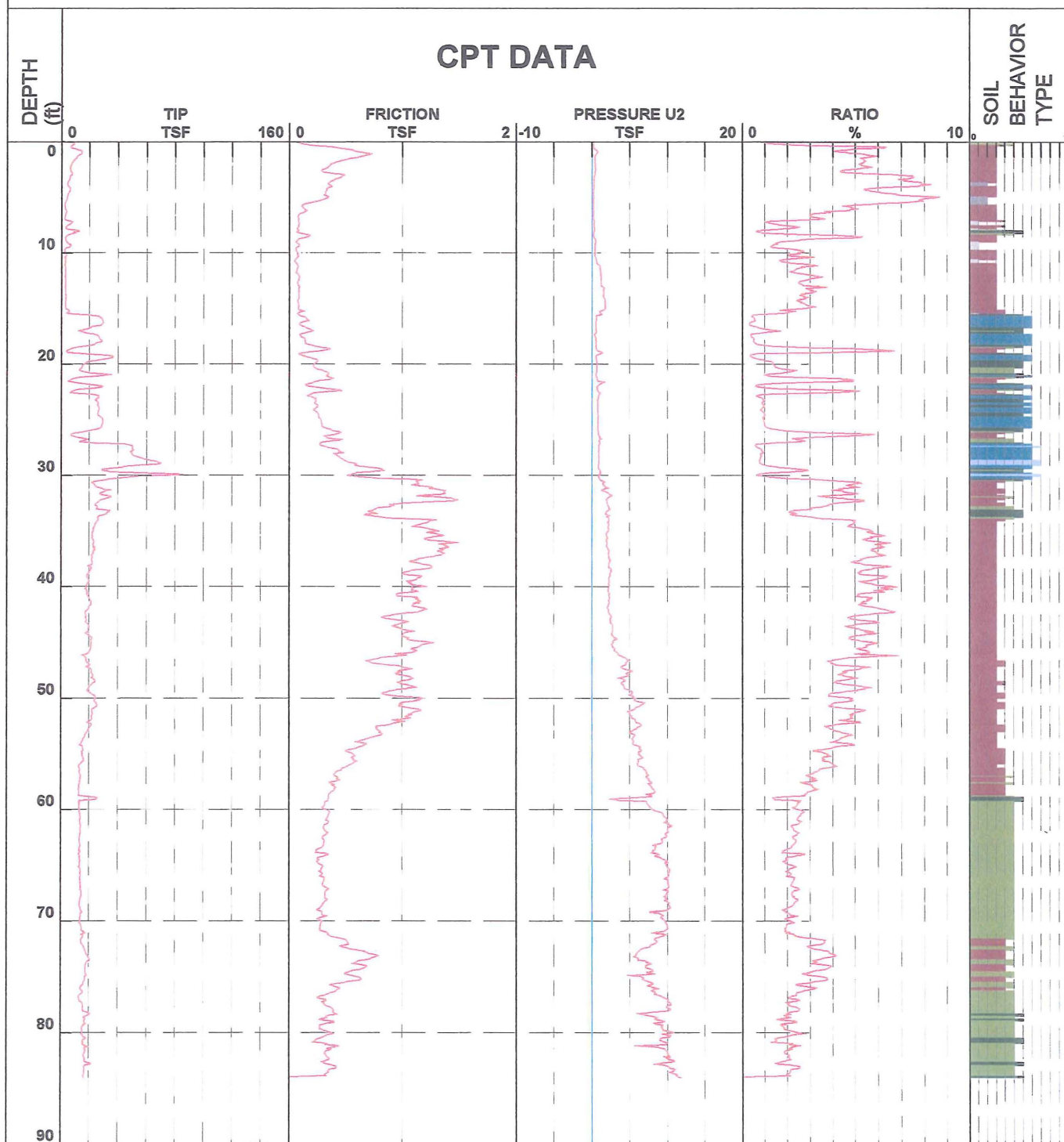
Date and T 03-Jun-2008 08:55:23

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Robertson et al. 1986 * Overconsolidated or Cemented



CPT Data

Job Number 04.1908-0042

CPT Number NC2-CPT3

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

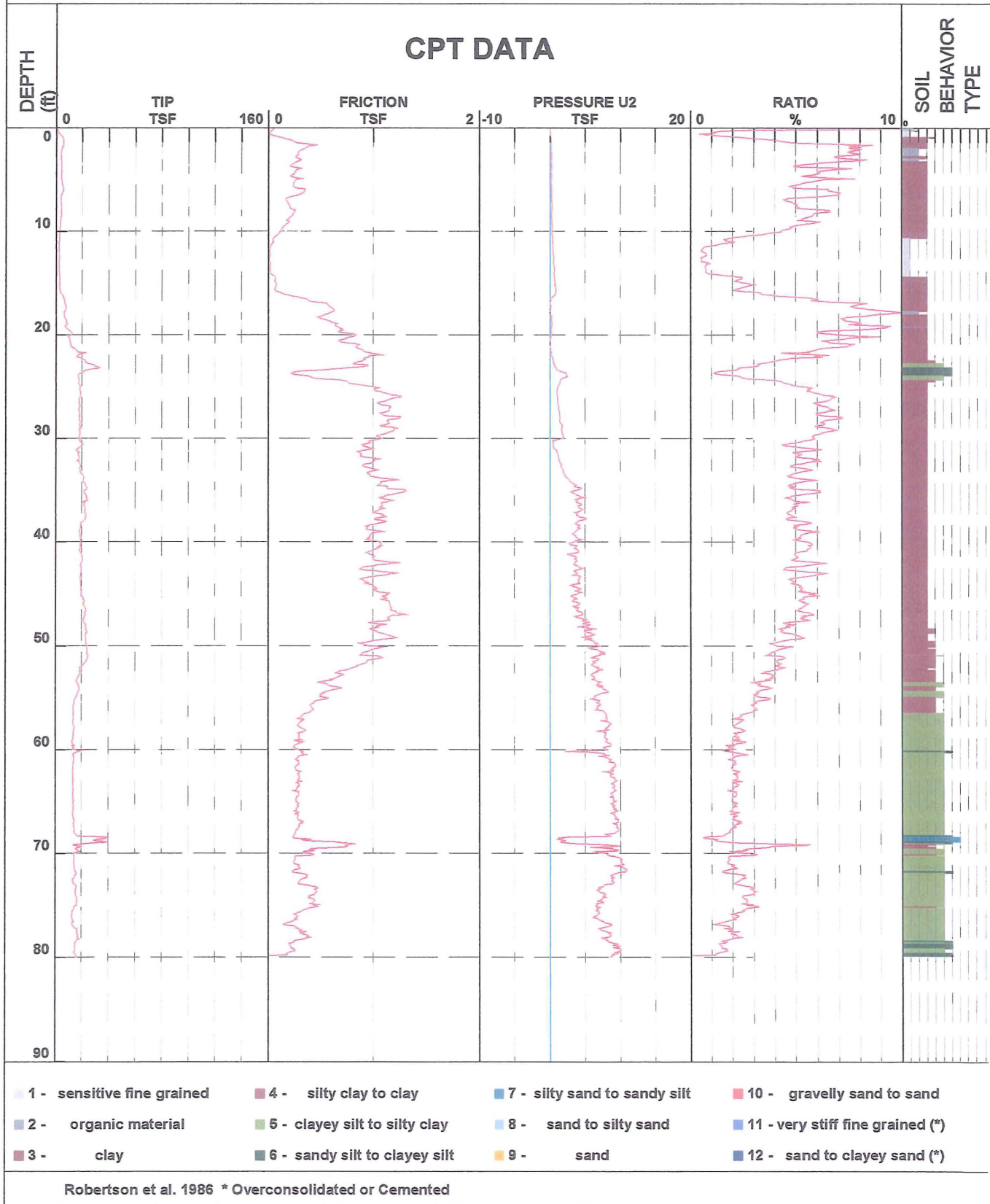
Date and T 02-Jun-2008 14:04:29

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft





CPT Data

Job Number 04.1908-0042

CPT Number OCPT-4

Location Gulfco Site-Freeport-TX

Operator ALBERT FONSECA

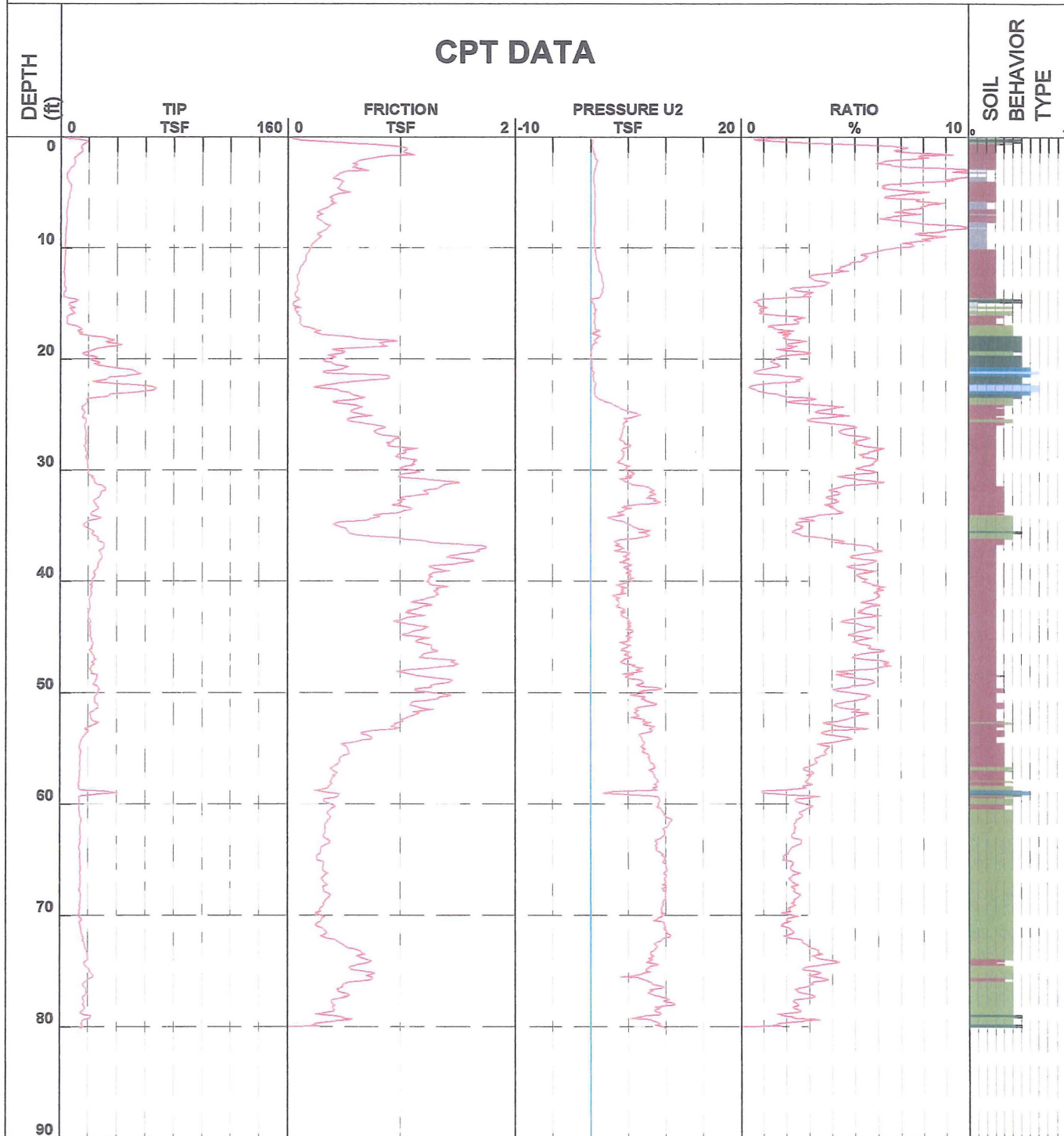
Date and T 03-Jun-2008 16:42:24

Cone Number A15F2.5CKEHW1636

Client _____

Elevation _____

Water Table 0.00 ft



- | | | | |
|----------------------------|-------------------------------|------------------------------|----------------------------------|
| 1 - sensitive fine grained | 4 - silty clay to clay | 7 - silty sand to sandy silt | 10 - gravelly sand to sand |
| 2 - organic material | 5 - clayey silt to silty clay | 8 - sand to silty sand | 11 - very stiff fine grained (*) |
| 3 - clay | 6 - sandy silt to clayey silt | 9 - sand | 12 - sand to clayey sand (*) |

Robertson et al. 1986 * Overconsolidated or Cemented



CPT Data

Job Number 04.1909-0001

CPT Number OCPT5

Location Gulfc0-Freeport-TX

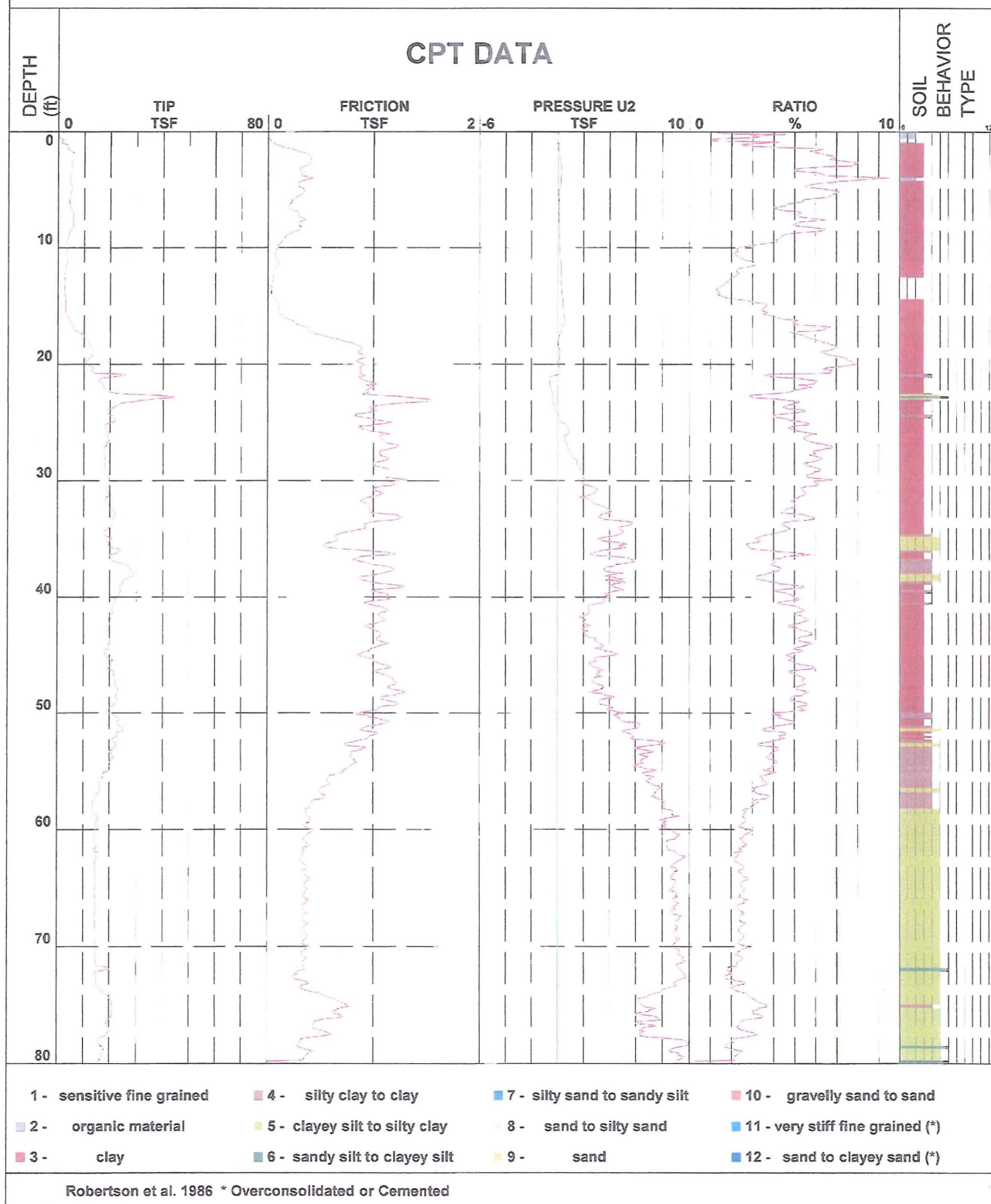
Operator Albert Fonseca

Date and Time 07-Jan-2009 10:20:32

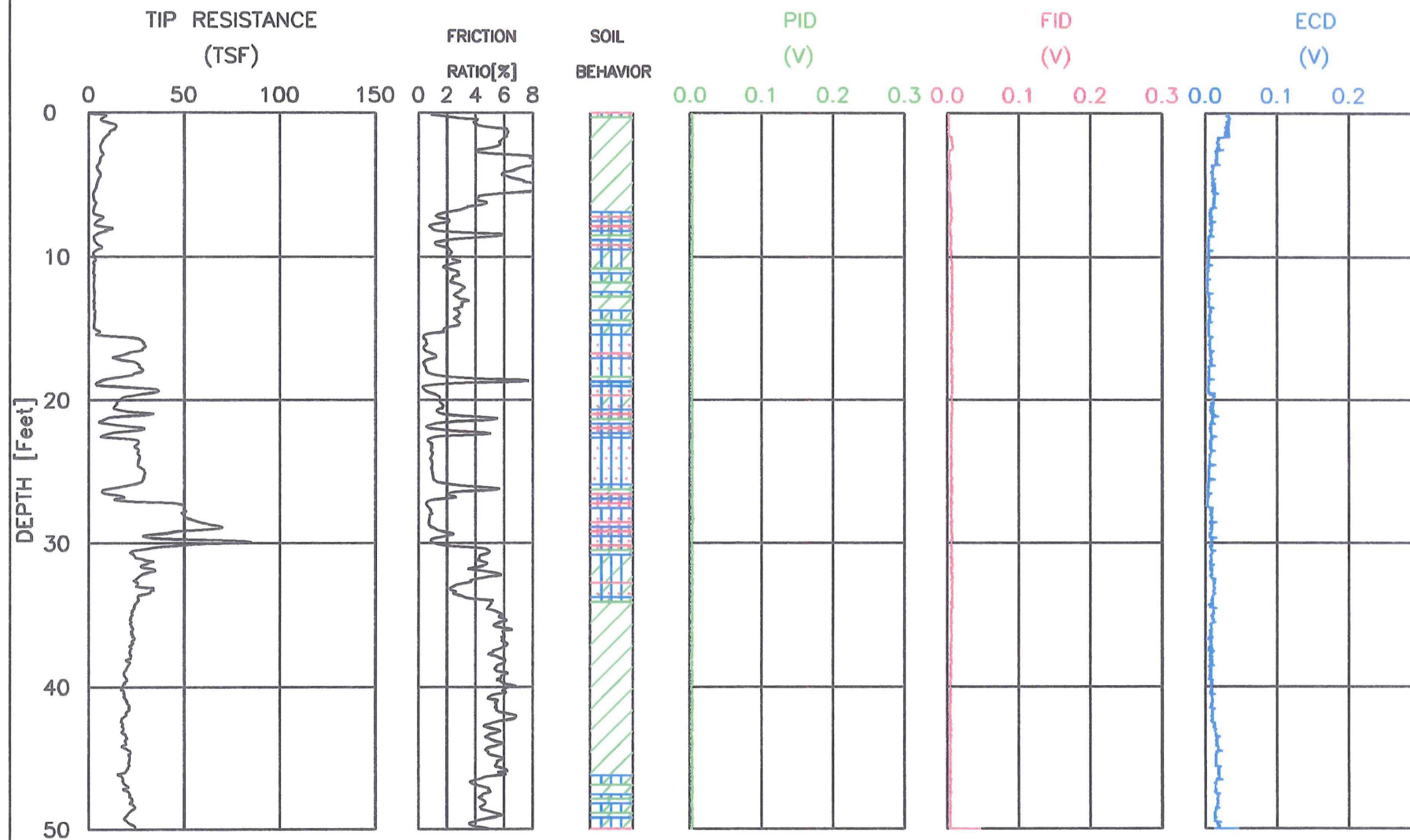
Cone Number F7.5CKEHW2/B0390

Client

Pastor, Behling & Wheeler, LLC



CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

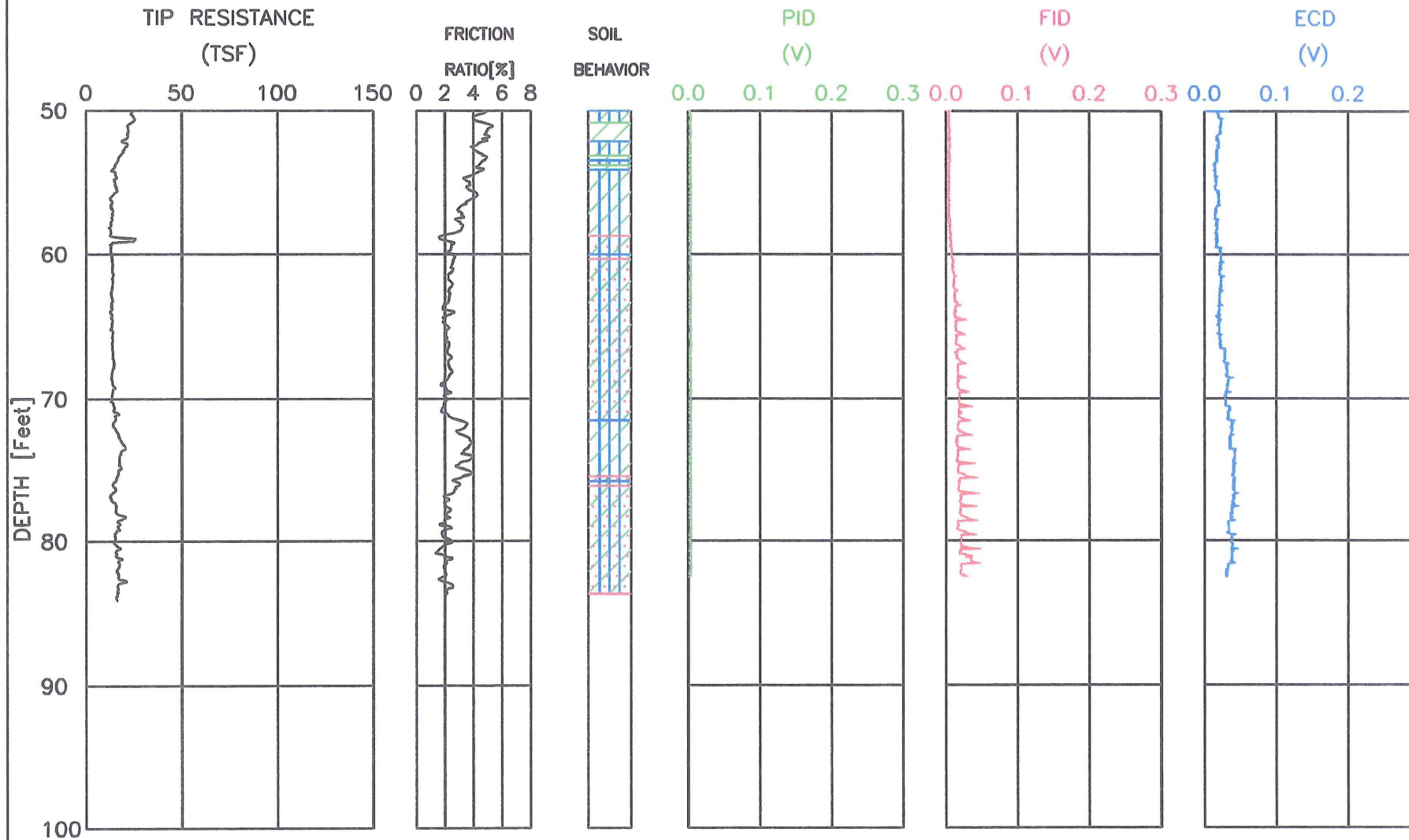
CPT NUMBER: NG3-CPT1

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

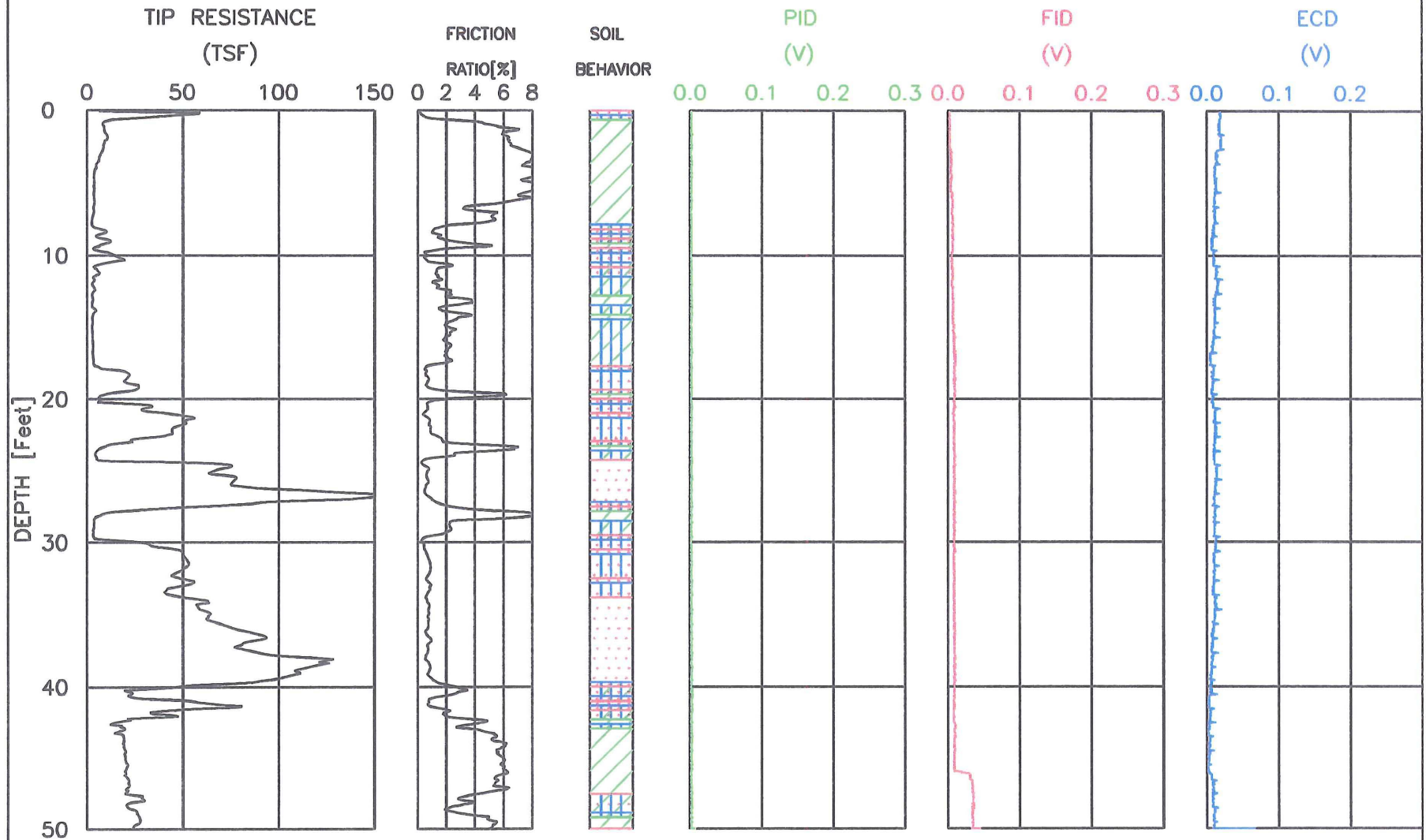
CPT NUMBER: NG3-CPT1

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

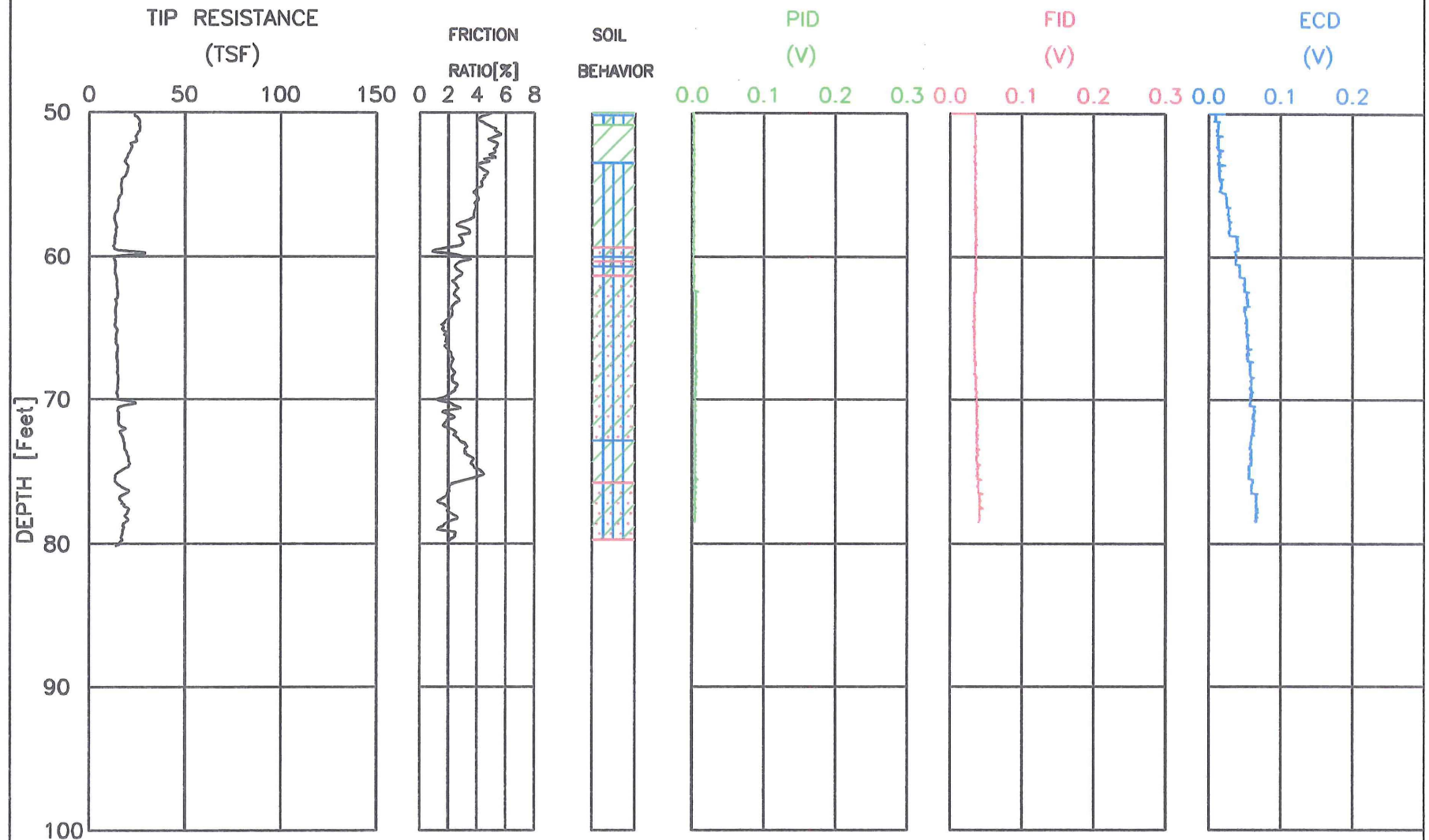
CPT NUMBER: NE4-CPT2

CONE NUMBER: A15F2.5CKEHW1636

DATE: 04-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

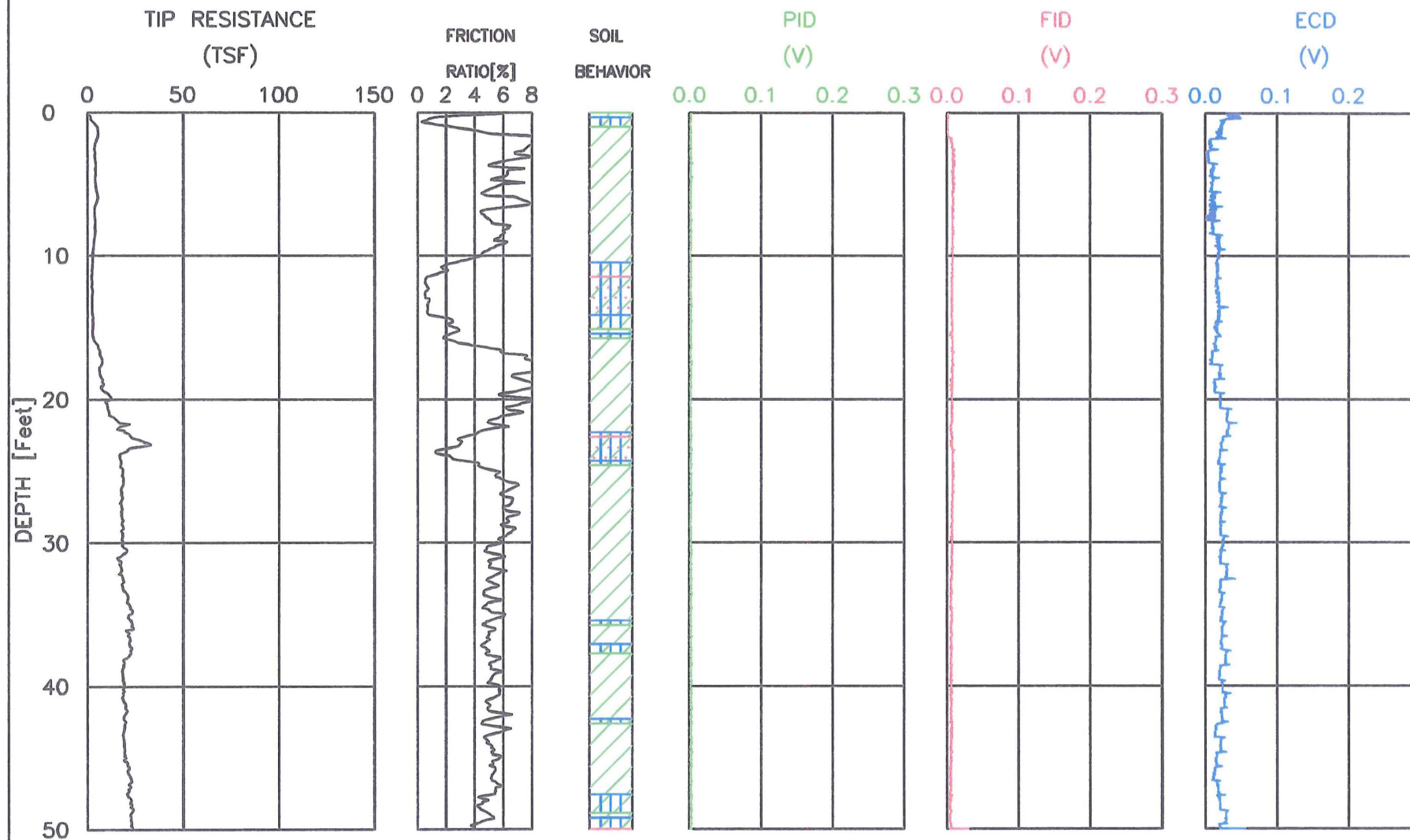
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CONE NUMBER: A15F2.5CKEHW1636

DATE: 04-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

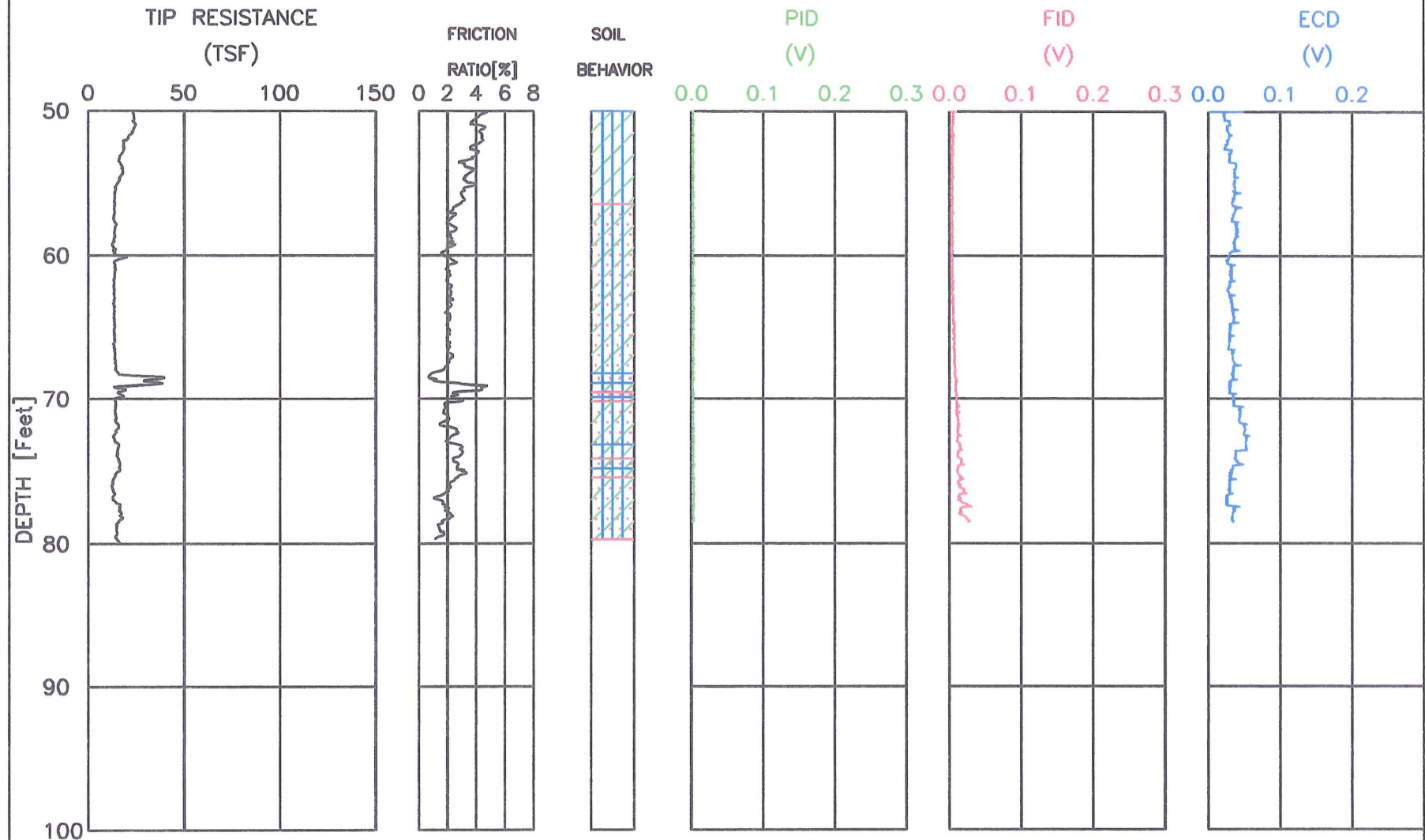
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CONE NUMBER: A15F2.5CKEHW1636

DATE: 02-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

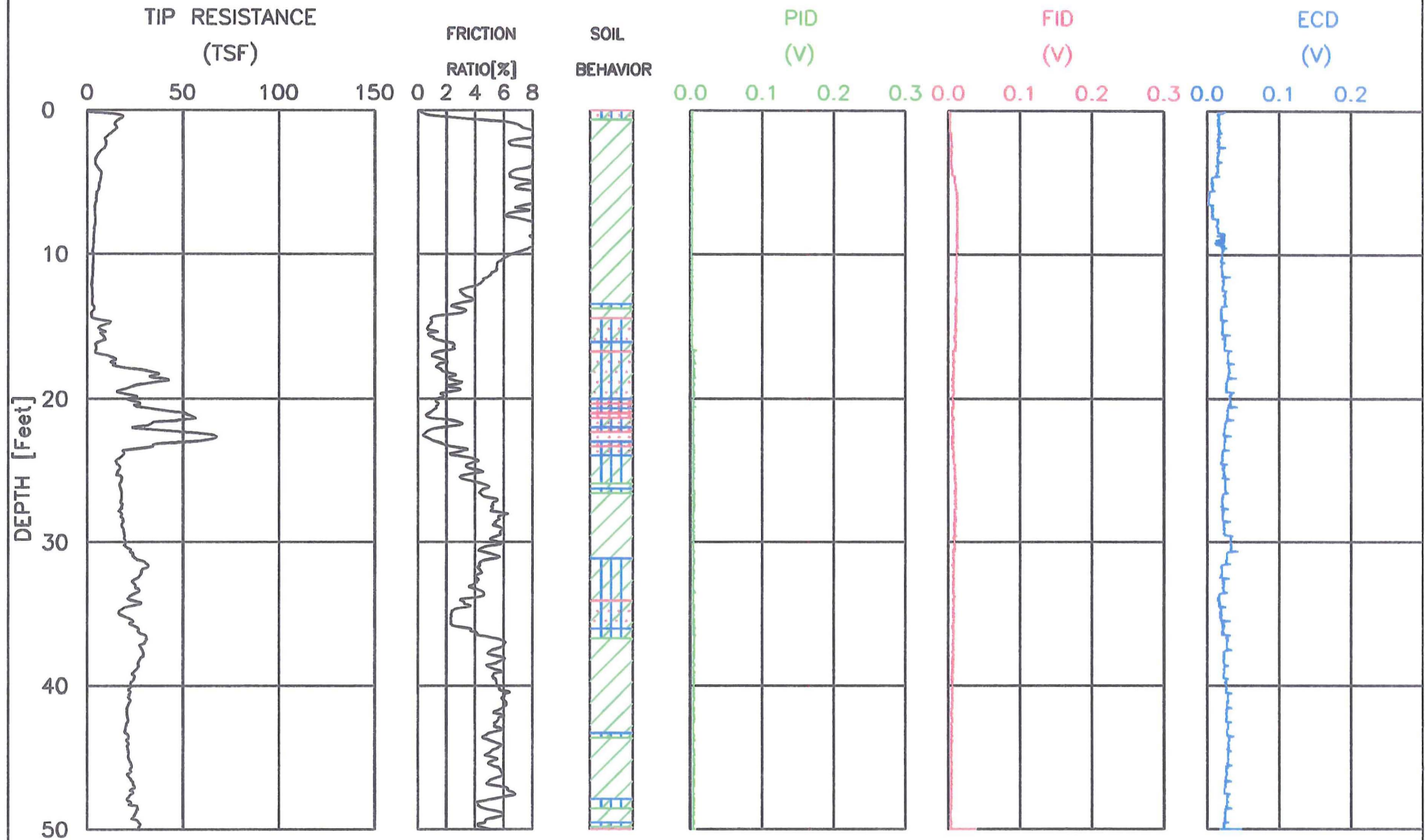
CPT NUMBER: NC2-CPT3

CONE NUMBER: A15F2.5CKEHW1636

DATE: 02-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

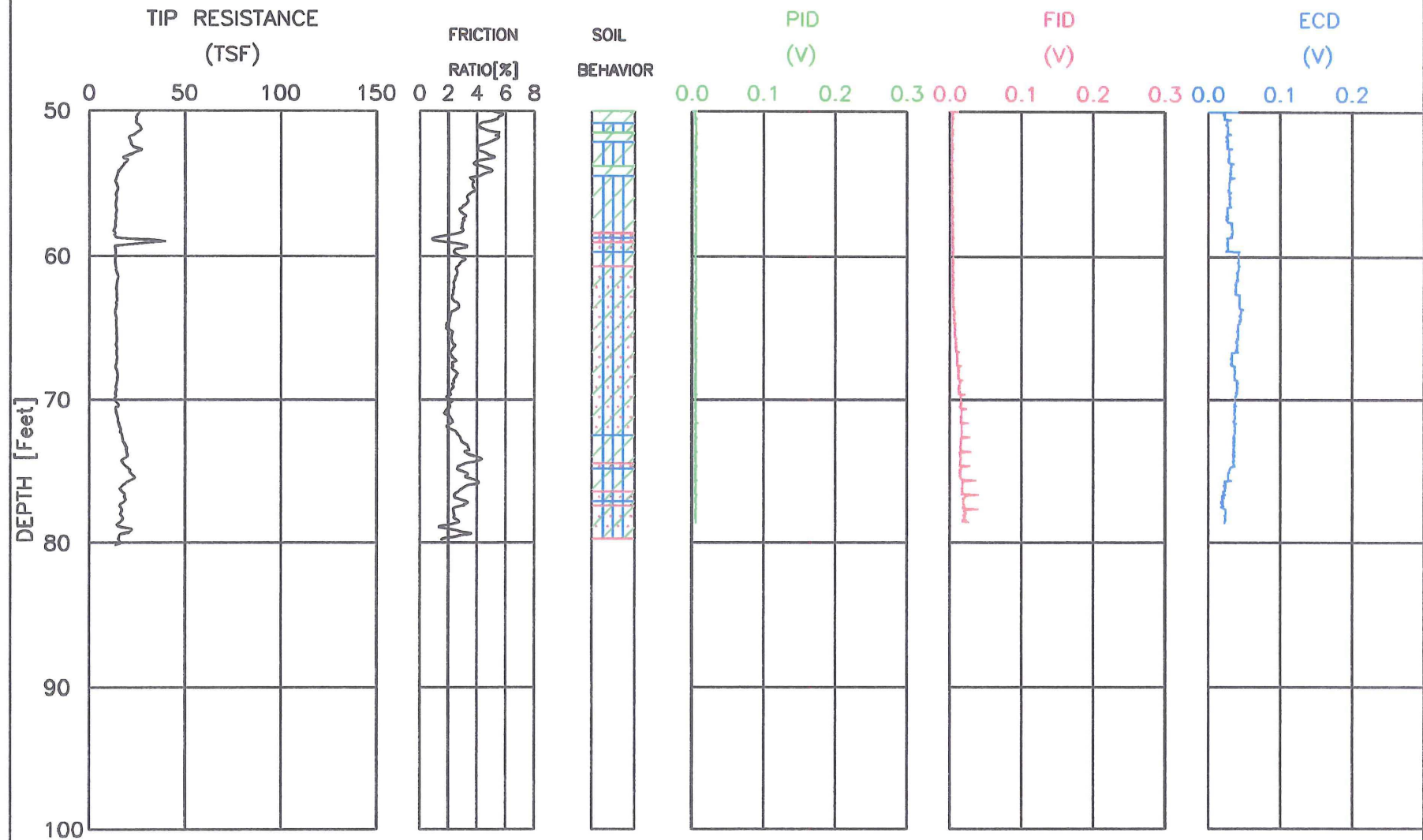
CPT NUMBER: OCPT-4

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1908-0042

ELEVATION: 0.00

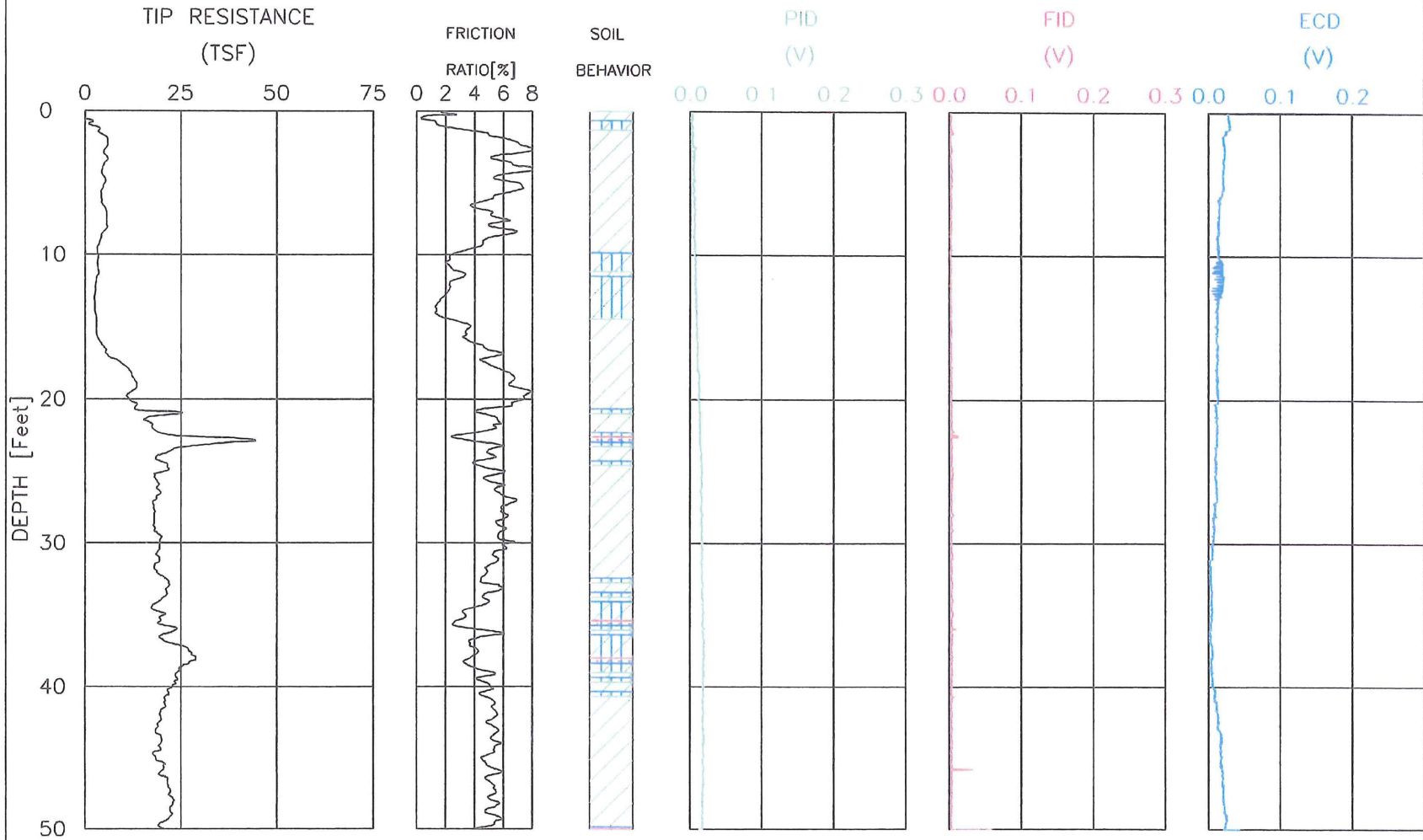
CPT NUMBER: OCPT-4

CONE NUMBER: A15F2.5CKEHW1636

DATE: 03-Jun-2008

PLATE: 2 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1909-0001

ELEVATION: 0.00

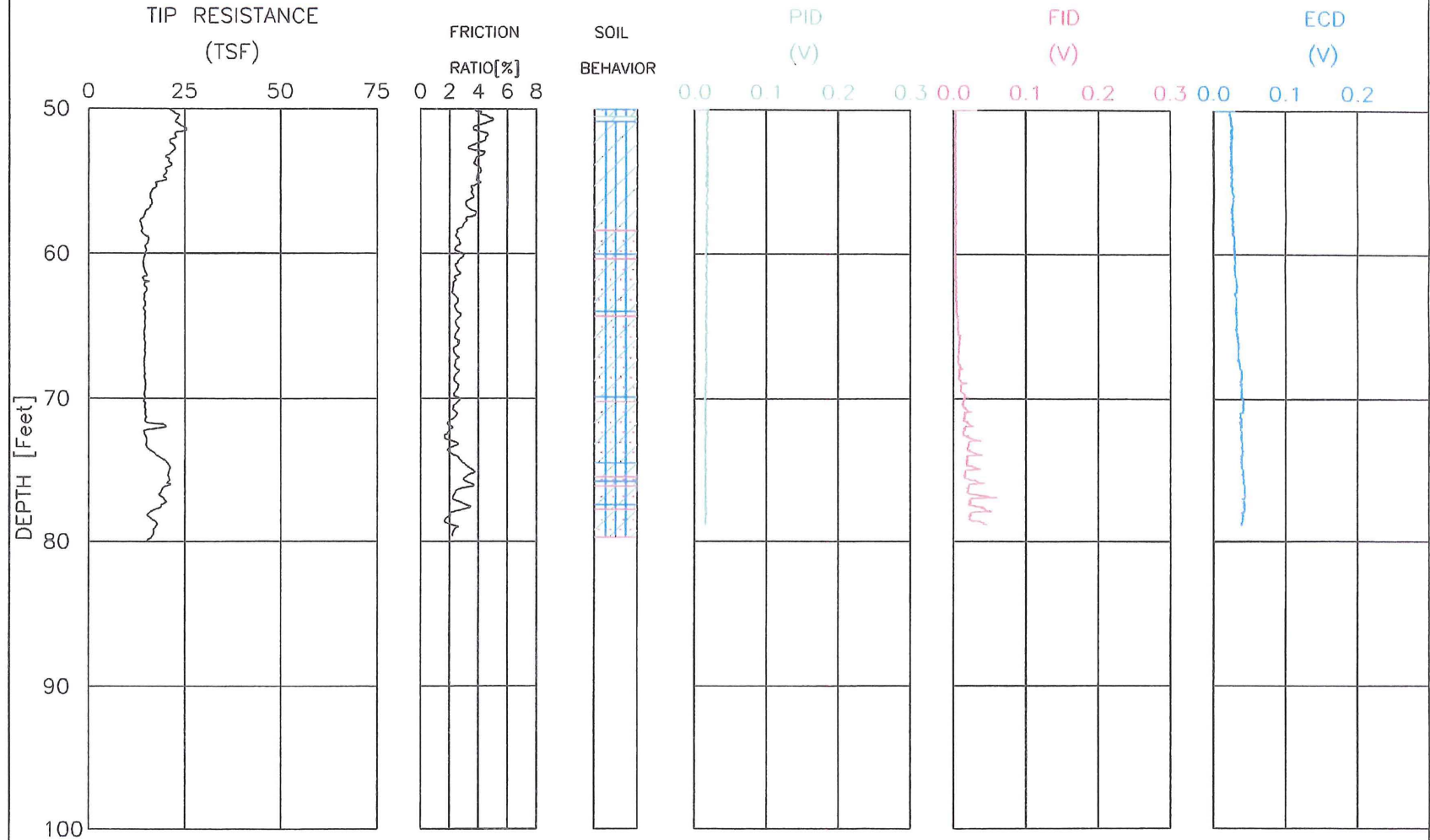
CPT NUMBER: OCPT5

CONE NUMBER: F7.5CKEHW2/B0390

DATE: 07-Jan-2009

PLATE: 1 OF 2

CPT/MIP TEST RESULTS



JOB NUMBER: 04.1909-0001

CPT NUMBER: OCPT5

DATE: 07-Jan-2009

ELEVATION: 0.00

CONE NUMBER: F7.5CKEHW2/B0390

PLATE: 2 OF 2